WORLD-WIDE

AIR TRANSPORTATION

(REG. U. S. PAT. OFF.)

AIR CARGO ★ ★ ★ AIR COMMERCE ★ ★ ★ AIR TRAVEL

IN THIS ISSUE

Lufthansa Kaput • Simplifying Terminal Problems • The Plane—A Business Tool

My 12 Minutes with the Magic Mistress • New Avenues in Aviation

and many other topnotch articles and features

AUGUST 1946

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PANAGRA
PAN AMERICAN WORLD AIRWAYS

(FOR SCHEDULE SEE PAGE 51)

PAN AMERICAN-GRACE AIRWAYS
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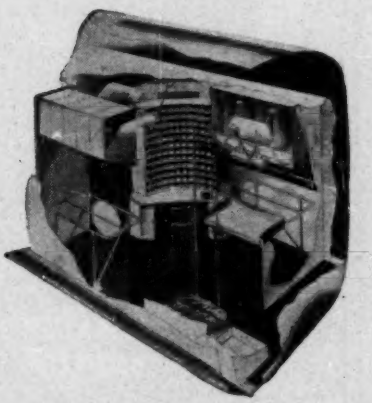

A LOOK INSIDE. This ingenious sorting section permits air mail clerks to sort mail *in flight.*

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Division of Fairchild Engine & Airplane Corporation, Hagerstown, Maryland

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(Trade Mark)

TWENTY prize-winning Saint Bernards were recently flown by **Western Air Lines** from San Francisco to the Harbor Cities Kennel Club Dog Show at Long Beach. The dogs arrived at their destination wearing the traditional life-saving wine-casks, with which they refreshed press and newsreel representatives and members of a welcoming delegation.

C. C. Gaudio, who recently returned to the Railway Express Agency as air express manager in Chicago, has been awarded the Legion of Merit for his work as Chief of Allocations, Headquarters, Army Transport Command, and for the movement of personnel for the occupation of Japan.

A hollow steel blade propeller measuring 19 feet in diameter has been delivered by the Propeller Division of the **Curtiss-Wright Corporation** to the Army Air Forces for installation on the Consolidated Vultee B-36. Capable of absorbing 3,000 horsepower to provide high cruising efficiency at sub-stratosphere altitudes, the three blade propeller incorporates provision for reversing, automatic synchronization, and de-icing by passing heated air through the hollow steel blades.

The **Aircraft Owners and Pilots Association** has contributed $1,000 for research into personal aircraft injuries, in order to increase cockpit safety in all aircraft. Hugh De Haven of Cornell University Medical College, is conducting the research project, the results of which will be studied by AOPA and other sponsors, and turned over to aircraft and accessory manufacturers.

The **Flushing Young Men's Board of Trade,** Queens County affiliate of the United States Junior Chamber of Commerce, has instituted an employment counseling service for veterans in the field of aviation. A panel of leaders in the industry meet bi-weekly at a vocational guidance forum for men and women veterans interested in aeronautical careers, and counsel the applicants on employment possibilities, job qualifications, education and training.

A Lockheed *Lodestar,* owned by the **B. F. Goodrich Company,** has flown more than 112,000 miles in a year's operations over 24 states, Canada, Mexico, and Cuba. The plane is used by the company to link its branch plants and district offices with its headquarters in Akron.

To accommodate the increasingly broad range of commodities offered for air freight shipment, **United Air Lines** has provided a new, 53-inch-wide "barn door" for its twin-engined *Cargoliner* 180s.

Atlantic Central Airlines has inaugurated daily flight service to Central Airport, Camden, New Jersey, connecting Camden with Atlantic City and Newark.

(Continued on Page 36)

VOL. 9 No. 2

AIR TRANSPORTATION

[REG. U. S. PAT. OFF.]

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August 1946

FEATURE ARTICLES

Lufthansa Kaput! 7
By OTTO E. KIRSCHNER

The Big Job—Simplifying Terminal Problems 18
By S. J. SOLOMON

The Plane—A Business Tool 22
By MILTON REYNOLDS

My Twelve Minutes with the Magic Mistress 24
By MITCHELL JABLONS

New Avenues in Aviation 32
By BRIGADIER GENERAL LAWRENCE J. CARR

Flying Ambulance 33
By LEE WHITE AND MORGAN SMITH

GENERAL ARTICLES

Air France is in the Sky Again 38
The well-known French airline resumes operations

NEWS

AMC Opens on West Coast 14
Lockheed Saturn Introduced 16
Waterman Asks Rehearing 16
ATA Seeks Traffic Improvements ... 16
Douglas DC-4-1037 Cargoplane 16
Pacific Airmotive Breaks Ground 44
New Canadian Air Transport 42
Expresó to Buy Cubana 37
EAL Cuts Air Cargo Rate 37
Hoosier Changes Name 42
New AOA Express Rates 42
UAL Files New Freight Tariff 43
Algiers, Tunis, Tripoli on TWA Run .. 43
British Groups Rap Lowered Commissions 44
UAL Proposed Helicopter Service ... 35
Filing re Section 292.1 35
Continental, Sears Cooperate 46
Air Safety Awards 46
CAB Proposed Amendment Hit 46

DEPARTMENTS

Short Take-Offs 5
Aircraft Maintenance Inspectors 27
Airdom 34
By Richard Malkin
Airportation News 35
Legal Notes 39
By George Boochever
It's an Air World 40
By L. A. Goldsmith
Air Commerce 42
Air Transportation Books 45
Airports 48
Air Transportation Congratulates ... 49
Air Shipping 51

THE COVER—The utility of the helicopter is highlighted in this scene which shows a Bell helicopter serving a typical mining community in Latin America, tucked away in mountains heretofore accessible only to plodding burros.

JOHN F. BUDD, *Editor and Publisher*

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Business Manager: B. L. WEST
Managing Editor: RICHARD MALKIN
Advertising & Public Relations Director:
HENRY W. FISCHER

Mid-West Representatives:
WYATT MACGAFFEY and
F. R. JONES
228 North LaSalle St., Chicago, Ill.
Phone: STate 5096

Pacific Coast Representative:
ROBERT H. DEIBLER & ASSOCIATES
403 W. Eighth St., Los Angeles 14, Calif.
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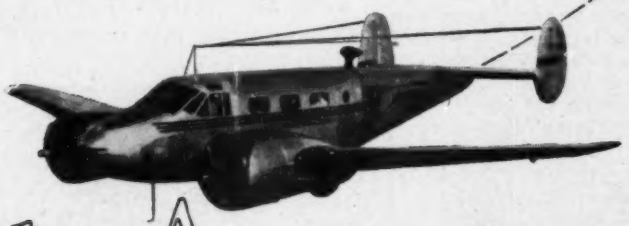

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卐 卐 卐 LUFTHANSA KAPUT!

By OTTO E. KIRCHNER . . . Director of Research and Development
American Airlines

Last year a five-man team of experts was loaned to the Combined Chiefs of Staffs, Army and Navy, United States Technical Industrial Intelligence Committee, by the airlines of this country. The purpose was to learn the exact status of the German commercial air transport system. This article, written by a member of that team, is based on the report.

THE only commercial German air carrier was the Deutsche Lufthansa. The German word *luft* meaning "air" and the word *hansa* meaning "league" or "union of cities or towns" appropriately describes the corporate structure of the organization. The Lufthansa was completely subsidized by the German Government and so was in effect a Government agency.

As a Government agency, Lufthansa had no similar American counterpart such as the American Civil Aeronautics Administration, but imposed its own regulations, although the responsibility for policy rested with the Air Ministry. This arrangement allowed the directors of the company great latitude in formulating their operational procedures. As such the structure of Lufthansa differed entirely from the American air transport type of concern.

Major ownership was vested in 13 municipal, state, and governmental agencies, and it was a closed corporation. Lufthansa was capitalized at 50 million marks (about 20 million dollars); however, no stock was ever issued. The corporate owners credited the corporation with certain amounts of monies in return for which they each received non-transferable receipts. Actually stock entries were only found in the books of the concern and these further showed that, only 25 percent of the capitalized amount was ever drawn, the balance remaining "on call."

Discounting the war years which figures would not be representative of true costs and revenues, the balance sheet for 1939 reveals the apparently amazing financial failure of Lufthansa. The revenue from passengers, cargo, and air service amounted to only 50 percent of the total operating cost of the company. The balance was maintained by a 50 percent subsidy from the German government. Further in-

vestigation reveals that of their revenue 70 percent came from passenger fares. These fares were set as high as the traffic could bear, and for this period was eight cents a mile. Hence, with Lufthansa's rate of nearly twice the American fare, it was still insufficient to reduce to any extent the amount of its subsidy, while American concerns showed a profit in this same period.

Partial explanation of this poor financial statement can be found in the depreciation policy followed by the company. It was the practice to amortize most of its properties as quickly as possible. This was done by annually writing off many capitalized items to a residual value of one mark, a procedure which could not be done under any other than a subsidy system. A closer inspection of their profit and loss statement reveals approximately 10 percent increase in operating expense over American practice which could be partly attributed to short hauls and lack of production methods.

Insurance Policy

The insurance policy of Lufthansa was similar in many respects to that of American organizations. They set up a reserve of four million dollars to self-insure their airplanes, engines, and accessories. Public liability and fire insurance on properties were purchased from mainly foreign concerns.

A study of their flight and ground crew insurance plans disclosed the general unique provision of approximately twice the amount of financial payments in case of total disability as compared to death.

The fleet of the Deutsche Lufthansa was widely varied in both airplane and engine models, but for the most part consisted of outmoded equipment of the Ford "tri-motor" era. Their best and latest development along these lines had been in the field of flying boats of which their Blohm and Voss 238 was outstanding. This craft never actually was put in operation since the war forced the German aircraft manufacturing industry to concentrate on the more critical military models such as interceptors. The Blohm and Voss 222 had been used both commercially and militarily, including also a six-engine, 20-passenger flying boat.

Perhaps the best landplane developed for Lufthansa was the Junkers 290 which was first produced in 1942. Only three aircraft of this model were ever operated by the company since the military assumed the control of their production and allocation during the war. This airplane was a four-engine, low wing, cantilever monoplane of all-metal construction. It was planned for long-range flights, and it was intended to use this equipment for operations as far distant as Japan.

The backbone of the Lufthansa fleet was the Junkers 52 which was first developed in 1928. The company operated about 70 to 80 airplanes of this type before the war, and their losses were replaced with similar equipment by the German Air Force. The accommodations of these planes were by our standards very poor, although great effort was made to keep them modern by frequent design changes. German production was geared to produce this aircraft in large quantities.

Another make which the Germans regarded very highly was the Folke-Wolfe 200, a 25-passenger, four-engine, low wing monoplane. Americans are familiar with the early model which was generally referred to as the *Condor* since one of them landed at Floyd Bennett Field several years before the war. The later model had received many design changes, and much had been done to improve them especially in interior accommodations. Lufthansa operated about 10 airplanes of this type.

Also operated by Lufthansa, were Junkers 86s, a Diesel engine plane which was only used in transocean operations over the South Atlantic, as the Germans found that only on long flights could Diesel-powered airplanes show a payload benefit. A few DC-3s were used by the company as well as several DC-2s. These were obtained from the military. *By the unique method of contracting with neutral Switzerland were the Lufthansa DC-3s kept abreast of all the latest Civil Aeronautics and Douglas factory changes.*

Although it is known that the volume of traffic handled by the Lufthansa was small in comparison with American standards, little information could be obtained which could give an accurate measure of the penetration or development of air travel. It was determined, however, that Lufthansa was greatly concerned over increasing the average length of hauls in order to reduce operating costs and to avoid the competition it was meeting from the elaborate system of *autobahns* (express highways) linking most of Germany. It was planned to increase the average distance from 312 to 425 miles; the prewar figure was 250. It was felt that in this way the utility of its airplanes could be increased and that the resulting lower cost attract greater traffic.

All reservations for airspace were made through a travel agency or bureau and even those made at the airport itself were controlled by the authorized agency. Lufthansa paid this concern a 7½ percent commission for European travel and four to five percent for transatlantic service. The contracts with these agencies called for a 30 day cancellation of the agreement, payment by Lufthansa of any communication costs involved in making reservations, and required the agency to do a minimum amount of advertising at its own expense. Lufthansa itself allocated one percent of its revenue on advertising.

In all the advertising program was quite intensive with most emphasis being placed upon the appeal of posters.

Reservations were made only on a definite basis and penalties were assessed for cancellation. Telephone reservations could be made and a pick-up time limit was set with a payment penalty for failure to pick-up the ticket. This policy was: Unless a replacement could be found, no refund was made; a 10 percent ticket value charge for handling in any case. During the war this was changed to 20 percent with a five percent addition if cancellation was made within five hours prior to flight time.

Inferior Passenger Service

The passenger service was generally inferior to that offered by American concerns. Meals were furnished only at regular mealtimes, and then only cold box lunch types were served. However, they provided lemonade, tea, and coffee gratis, and liquor could be purchased from the steward. Smoking was allowed in assigned space only, and in this section, the passenger could smoke pipe, cigar, or cigarettes. The company supplied the usual blankets, pillows, magazines, and newspapers.

In addition, Lufthansa performed a passenger service which is not offered in this country—public service messages aboard aircraft. Passengers *en route* would file messages with the operator who upon completion of his regular flight duties would then transmit these messages to the ground station which would turn them over to the telegraph agency. The premium for the messages was high—30 pfennig per word—and the service was canceled during the war period.

It was the policy of the German Government to send mail whenever possible by air. In fact this policy was in practice throughout most of Europe and a reciprocal international agreement was effected establishing an international post office exchange rate of 2½ gold francs per ton kilometer for first class mail which is about 77 cents a ton mile as compared to our 60 during the same period.

Without this encouragement Lufthansa would have certainly been in need of even greater subsidies. Figures obtained from their financial reports show that in 1939 30 percent of the revenue obtained from commercial operations was derived from cargo and mail. In 1943 there was a jump in this operating revenue which was marked by an even further increase due to cargo and mail to 50 percent. Most of this was the result of mail since Lufthansa handled very little cargo.

The company itself imposed very few regulations. A considerable responsibility for safe operations rested with the pilot. It was his judgment which determined the weather minimums for many flights, and it was not unusual for some to take off when all aircraft should have been grounded. Yet, the average pilot was reasonably conservative, and the usual minimum was approximately an 1,800-foot ceiling.

There was no air traffic control as we know it in this country. Again it was the pilot's responsibility to select a safe cruising altitude and course. Before the flight, he was informed of all known operations and made his own decisions in the pattern. He was only required to notify the station if at any time he altered his predetermined course. This method of control seemed satisfactory to the Germans, but at no time did they ever have a large volume of traffic. Too, they did not engage in any extensive night operations; all flying consisted of short hops and passenger flights limited to daylight hours.

THE FORMER PRIDE OF BERLIN—Otto E. Kirchner, member of the official team which surveyed the Nazi commercial air transport system, standing on the observation deck of Berlin's famed Tempelhof Airdrome. This was the principal terminal of Lufthansa.

DEUTSCHE LUFTHANSA A. G.
THE GERMAN AIRWAYS
MAIN OFFICE—ZENTRALFLUGHAFEN, BERLIN-TEMPELHOF SW 29 NEUBAU PHONE—(19481) CABLE ADDRESS—LUFTHANSA BERLIN
NEW YORK REPRESENTATIVE—[illegible] MADISON AVE., ROOM 3405, NEW YORK CITY, PHONE—PLAZA 5-8022 and 5-8048, CABLE ADDRESS—LUFTHANSA NEWYORK
DEUTSCHE LUFTHANSA
STRECKENNETZ
DISREGARD THESE SCHEDULES
September '39
Explanations

110

Hence, it is doubtful if their system would prove safe or practical under any other than their limited operational scope.

The flight personnel of the company was well trained and experienced. It was said that the great encouragement the Nazis extended to Lufthansa was due to its ability to produce good aeronautical men who could take an important place in the expansion program of the Nazi party.

Prior to 1938, Lufthansa trained its own flight staff; and, since it was the sole commercial air carrier in Germany, the only trained civilian personnel were found in Lufthansa. Realizing the inadequacies of this system, the Air Ministry assisted the company in the financing of a school, Die Deutsche Verkehrsfliegerschule (The German Air Transport Flyers Institute), to train personnel for civil aviation on a nonprofit bases. Lufthansa formulated the policy and provided the instructional staff for this school, while the Air Ministry supplied the equipment. The majority of the trainees were employees of the Lufthansa. However, many other students, including several foreign entrants, were graduated.

The curriculum of this school provided adequate training for pilots, radio operators, dispatchers, assistant station managers, and flight engineers. It was the intention of the administration to broaden its scope for all classification of personnel, but the war curtailed this program to the extent that actually only radio operators received instruction during this period.

The candidates for this school were selected from the highest quality personnel available. In most cases, the applicants were required to hold minor licenses in their fields. Examinations were given and high standards maintained. In all, the management of the school was most progressive and in most cases quite in keeping with modern methods employed elsewhere. However, it can be stated that the possibilities of synthetic training were only partly appreciated by the German Air Force, and all such devices which were found were inferior to that already in use by the American military forces and commercial operators.

Competent Ground Work

The ground servicing crews of Lufthansa were very competent. Lufthansa relied heavily upon the knowledge and craftmanship of their older maintenance men for proper overhaul and maintenance of their fleet. During the war years there was a great influx of inexperienced men. For their education, in spite of the war, pocket-sized manuals were issued which compared favorably to our own classroom textbooks in the quality of binding and printing. Great emphasis was placed upon pictorial explanations in these manuals. The all-around quality of their servicing and maintenance resulted in a very low accident rate from this cause. Pictorial representation was also applied to their line service and overhaul equipment manuals which were sent out into the field.

Lufthansa did not operate any aircraft incorporating a pressurized cabin. However, this they planned to do in the postwar period. At that time, little research had been done on the problem and they had not yet designed any equipment for this purpose. It was thought, though, that they would use a sponge rubber sealant and have the doors open inward. Neither had they made any attempt at cabin humidifying.

The materials used in lining and decorating the cabin interior were similar to those employed by American concerns in 1939 and no improvements or innovations were found in either. They used the exhaust as their source of heat for cabin heating by placing intensifier tubes in the stacks. They had a routine check to detect leakage but they did have several experiences with carbon monoxide poisoning. The heater was regulated manually although they had tried several automatic installations unsuccessfully. They used no blowers to assist in ventilation but depended upon air ram.

They had no advanced designs for the buffet since their meals consisted of little more than the box lunch style.

AIR--X--PRESS

ANY "FRANKS" TODAY?

BUTT of a thousand and one jokes, the much-maligned "hot dog," weinie or frankfurter (as you prefer) nevertheless has more than held its own as America's favorite food when it comes to ball games, picnics, beach parties or for just plain ordinary eating. If all the weinies consumed in the U. S. in a year were laid end to end — but that's not the story this time! This story is about the hot dogs — 13,800 of 'em! — that rode the skyways in Air Express service recently from Memphis, Tenn., to Jamestown, N. Y., to give the necessary American flavor to a Fourth of July celebration there. Vital statistics: Gross weight, 1,500 pounds; 13,800 "dogs," all of them reaching destination in good condition to serve their appointed destiny.

CANDY COMES FLYING

NEED 5,000 one-pound boxes of candy in a hurry? That's what a Texas chain drug concern asked for during a rush holiday season a few months ago, and Air Express was the answer. Ordered by long-distance phone on a Friday afternoon, the shipment was trucked to the Kansas City airport and loaded aboard a regularly-scheduled airliner for Dallas, Texas. The toothsome stuff was at the consignee's warehouse less than 16 hours after it had been ordered!

MERCY ERRAND

TO REPLACE BLOOD used by Seattle, Wash., hospitals in treating the baseball-player victims of a highway accident, shipments of blood were air-expressed from Spokane donors to Seattle hospitals recently. Motorcycle police escorted the Air Express truck from Spokane's Junior Chamber of Commerce offices to the airport to make a split-second airline connection for Seattle.

NEWS TRAVELS FAST

NEWS ON WINGS is no stranger to Air Express since the service was started just 19 years ago come September. Newsreels, prints, mats, portable telephoto equipment — all have been sped by Air Express in the interest of that most perishable of commodities — "News." The latest news implement to ride the airways was an illuminated news ticker for a Hollywood radio studio building. It was air-expressed from New York to reach the movie capital on an advertised opening date.

WINGED CHERRIES

LUSCIOUS tree-ripened cherries from Pacific Northwest orchards are winging their way into the heart and palates of cherry pie connoisseurs as far away as Honduras and Hawaii these days. That's the reliable report from Air Express representatives and Chamber of Commerce boosters in Wenatchee, Washington. Gift boxes of the round, red fruit are dispatched daily by Air Express to all corners of the U. S. . . . Had any cherry pie lately?

(Advertisement)

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349	1.02	1.18	2.30	3.68	9.21¢
549	1.07	1.42	3.84	6.14	15.35¢
1049	1.17	1.98	7.68	12.28	30.70¢
2349	1.45	3.53	17.65	28.24	70.61¢
Over 2350	1.47	3.68	18.42	29.47	73.68¢
INTERNATIONAL RATES ALSO REDUCED					

AIR EXPRESS

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Phone AIR EXPRESS DIVISION, RAILWAY EXPRESS AGENCY
Representing the AIRLINES of the United States

DO-X INTERIOR — Lufthansa made a lavish display of its accommodations for the benefit of the overseas trade, but generally the airline's standards were below those of the United States. This is the DO-X passenger lounge, looking forward.

•

The German conception of an ideal airport was directly opposed in many ways to the thinking of American airport designers both in field and terminal construction. The Germans placed relatively little importance upon the field and its capacity for handling traffic quickly in all types of weather conditions. They were usually small, the largest running less than a mile in length, and most were elliptical in shape. They were such that a large American four-engine transport of the DC-4 type could operate in these fields in accordance with CAA regulations only under reduced landing if the wind direction was not along the major axis of the landing area.

In construction, they were typical European. The entire surface was sod with drainage points so spaced that the surface could be kept firm. However, if weather conditions became extreme, the field would be closed to traffic for long periods of time. The lack of paved runways would again limit the operation of heavier aircraft, such as we possess, to only the most favorable weather conditions.

Around the perimeter of the field were hard surfaced taxiways, and beyond these between the hangars and the strips were sod anchoring places. These taxiways were paved and were similar to our aprons. Since they did not have night operations, little attention was given to lighting.

Lavish Terminals

In the construction of terminals and accompaning buildings, the Germans were lavish. Their capacity was far beyond that of the field. Great emphasis was placed upon making them national show places and to incorporate in them as many facilities as possible for both the passengers and the public. The public was especially encouraged to make the air terminal a favorite meeting place for dinner and entertainment as air shows were frequently scheduled there.

With this in mind, the architects took great pains to route the public in such a way that they in no way congested the buildings interfering with departing or arriving passengers. This was usually accompanied by separating them entirely by routing passengers on a lower level than the public. The buildings were spacious and beautiful with many pretentious lobbies. The terminals at Stuttgart and Munich had five floor levels.

The airport at Berlin—Tempelhof—needs special mention, as it was far beyond the rest of Germany and shows the trend of German thinking along these lines. Information released in 1939 disclosed some actual figures on its size and capacity. However, there was no way to check on their accuracy, and in the light of their actual installations, there is reason to believe that some, especially those dealing with traffic and operations, were in all *quite optimistic*.

Nevertheless, they are presented here along with the comparative figures for LaGuardia Airport which were derived as averages from yearly figures. It should also be kept in mind that mili-

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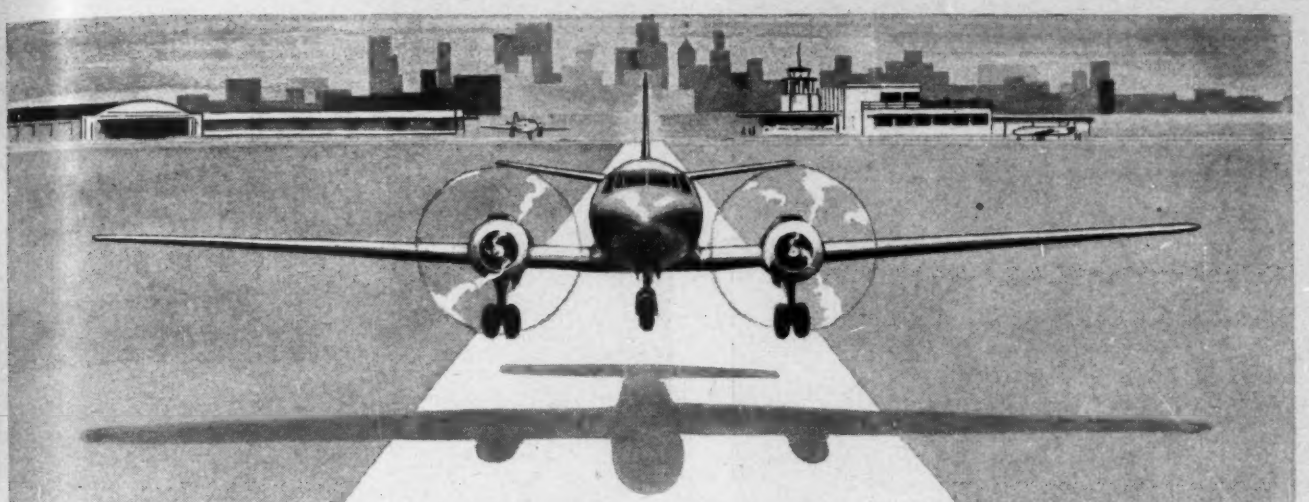
IN NEW YORK HARBOR—The six-engined Dornier flying boat, the DO-X, shown in New York harbor in prewar days, after a flight from Germany. Other aircraft of this type linked Germany with South America.



For Domestic Service

CAPITAL (PCA) • EASTERN

CHICAGO & SOUTHERN • BRANIFF

UNITED • NORTHWEST • DELTA

For Latin-American Service

CHICAGO & SOUTHERN • BRANIFF • PANAGRA

DODERO (ARGENTINA) • CRUZEIRO DO SUL (BRAZIL)

For Cargo Service . . . . . COMMANDER

Here's Why THE LEADERS CHOOSE MARTIN!

Greater economy! More passenger comfort! Advanced dependability! Higher speed! Airline engineers added up these Martin features . . . Balanced them against competitive designs . . . Found no other medium-range transports could equal the new Martins. ¶ That's why you'll soon find Martin 2-0-2 or 3-0-3 transports flying for the majority of leading airlines . . . in the United States . . . in Latin-America! ¶ Result: *For the airlines* . . . reduced costs, heavier traffic, minimum maintenance. *For the flying public* . . . quicker trips, greater comfort, less expense. *For Martin* . . . unchallenged leadership in the twin-engine commercial aircraft field.

Martin AIRCRAFT

Builders of Dependable Aircraft Since 1909

THE GLENN L. MARTIN COMPANY
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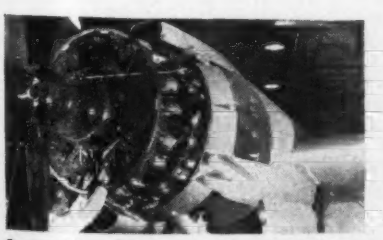

Speed! New design . . . plus reliable Pratt & Whitney engines . . . gives Martin airliners up to 300 m.p.h. cruising speed.

Luxury! Air-conditioning . . . warm-wall heating . . . new reclining seats . . . individual reading lights . . . smart styling.

Dependability! Thermal anti-icing of wings, prop, empennage . . . on 3-0-3 model, a 16,000 ft. altitude on one engine.

REDUCED TO RUBBLE—Buildings at Munich Airport left skeletonized after they were hit by fleets of heavy and medium bombers. Quite a thorough job.

SIFTING AND SORTING—Two German civilians helping an American officer search for information in the bombed-out Lufthansa administration building.

tary operations in the New York area are usually confined to Floyd Bennett or Mitchell Fields, and that civil aviation at LaGuardia is almost nonexistent. All this was handled by Tempelhof.

	LaGuardia	Tempelhof
Type of field	Paved runways	Sod overall
Area in acres	558	800
Loading gates	16	22
Runway (longest in ft.)	6,000	5,000
Commercial flights per day	248	216
Highest no. of flights	445	500
Passengers per day	4,700	3,000
Facilities for feeding	17,000	65,000

The handling of 22 simultaneous airplanes at one time could be done under cover protected from snow, wind, and rain.

The Germans undertook, by means of lavish terminals and frequent air shows, to foster airmindedness in the public. They, generally speaking, used good operating procedures at these airports and made every effort to insure what they had by good maintenance and all-around progressiveness.

To summarize, this has only been an attempt in this short discussion to give reader a bird's-eye view of German commercial airline operation. We were left with one fixed impression—*that progress in the United States in air transportation in all its phases does not have to take a second place to any other in the world.*

○ ○ ○

Earlier this year Mr. Kirschner presented his complete report on Lufthansa before the Society of Automotive Engineers. This magazine is grateful to American Airlines' *Flagship World* for the illustrations used in connection with this article.

AMC Opens its Doors For Business on West Coast

The United States Navy's former $4,000,000 modification center at Metropolitan Airport, Van Nuys, California, has been opened at a modern fully equipped aircraft service center by Aviation Maintenance Corporation.

Organized by a group of former Air Technical Service Command officers, the 77-acre plant is equipped to handle all phases of aircraft overhaul, modification, and maintenance, as well as to provide storage and turnaround service.

AMC is occupying the property and buildings under a 4½ year lease with an opportunity to purchase at a figure approximating $2,000,000. As of June 21, AMC was employing more than 750 persons in its offices and shops, working two shifts on a backlog of contracts totaling more than $3,500,000 written before the company got into operation. It is expected that employment will reach 1,500 within the next three months when further contracts, now being negotiated with large aircraft operators, are completed.

Colonel John H. Fite, president and chairman of the board, is a veteran of 18 years' service in the Army Air Corps, the last 10 of which were spent in engineering and supply work with the ATSC. He set up and commanded the Air Depot and Air Service Command at Mobile, Alabama, and was chief of air supply in the Mediterranean Theater of Operation. Prior to the war he was chief of the Technical Data Section at Wright Field.

Vice president and general manager of the corporation is August C. Esenwein. A graduate in industrial engineering from Yale University, he has been connected with commercial and military aviation since 1927 and is a commercial pilot. He formed and operated the Buffalo Aeronautical Corporation, was a project engineer for Curtiss-Wright, and was president and manager of Fabricators, Inc. As a lieutenant colonel in the Air Corps Reserve, Esenwein managed an Army Air Forces air depot which employed 4,500 civilian workers in overhauling and repair of aircraft, aircraft engines and accessories.

William R. Howard III, vice president and sales manager, was a major in the Air Forces during the war and was assigned to the office of the Air Inspector, San Bernardino Air Service Command. Previously he was president of the Baltimore County Oil Company, manager of the Southern District of the Shell Oil Company and president of the W. R. Howard Company and the Howard Lumber Company. For five years he was a member of the Maryland Aviation Commission.

Charles M. Fischer, vice president and flight operations manager, was an Air Forces major and chief of the Flight Test Section at the San Bernardino Air Technical Service Command.

Eugene E. Finch, vice president and production manager, has had 19 years' experience in aircraft maintenance work, starting as an enlisted man in the Air Corps in 1927. From 1930 until he joined AMC he was a civilian employee of the War Department serving in supervisory and executive capacities in flight test, engineering, repair and modification sections at bases in Hawaii, Fairfield, Eglin Field, Albuquerque and San Bernardino.

AMC is offering to airlines, contract air carriers, fleet operators, Government agencies and individual airplane owners complete service in the fields of modification, repair and overhaul, maintenance, parts and supplies, and aircraft storage. The corporation has been licensed by the Douglas Aircraft Company as an approved modification and repair station for C-47 and C-54 type aircraft. Current contracts with Argentine Government groups, written with the approval of the United States State Department, call for the modification of approximately 25 C-47s, 15 C-54s, and more than 30 AT-11s for passenger and freight service in South America. Other groups service in South America. System service and modification contracts have been written with a number of domestic airlines.

Shippers are Speeding these Commodities by BRANIFF Air-FREIGHT

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Diplomatic material
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Fresh flowers
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Household goods
Hose—nylon and silk
Jewelry
Ladies belts
Ladies dresses and accessories
Lighters and parts
Medicines
Metal and glass bracelets
Movie supplies
Mowers
Newspapers
Office supplies
Oil paintings
Oil well machinery
Optical supplies
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Personal effects
Phonograph records
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Rubber blocks
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Seafood and fish
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Shirts
Shoes
Toys
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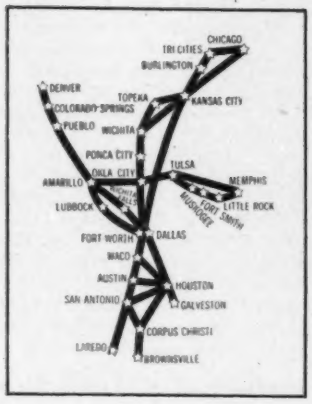
(Advertisement)

It's only a habit—

USE OF COMPLICATED SHIPPING PAPERS



Braniff was the first airline to introduce the Airbill—the new shipping document combining both waybill and freight-bill. It pays to save time by using Braniff streamlined handling of air cargo at new reduced rates, on regular schedules or contract operations.

BRANIFF *Air*-FREIGHT

Phone Braniff Airways office at any city shown on this map, or write Braniff Airways General Traffic Office, Love Field, Dallas 9, Texas.

THE SATURN IS INTRODUCED BY LOCKHEED

BOARDING THE SATURN—Lockheed Aircraft's new twin-engine transport, the Saturn, designed to carry 14 passengers or 3,000 pounds of cargo.

The Lockheed *Saturn*, a plane with "a great deal of design sophistication"—to use the words of Robert E. Gross, president of Lockheed Aircraft—has undergone successful flight testing, and, barring the unforeseen, probably will be ready for delivery the first of next year.

A twin-engined transport designed for feederline use, the *Saturn* carries 14 passengers or 3,000 pounds of cargo. An easily movable cabin bulkhead between the passenger and cargo compartments permits the plane to carry passengers or packages in the proportion desired on any given flight.

Top speed of the ship is over 250 miles an hour. The *Saturn* cruises at more than 200 miles an hour at normal altitudes with 60 percent power. Its ability to get in and out of small fields makes it particularly valuable in serving smaller communities. The new Lockheed transport takes off in 1,500 feet. It has a wingspan of 74 feet and an overall length of 51½ feet.

The individual passenger seats, hammock-type chairs made of tubular steel, are luxuriously upholstered. Each of the 14 seats is located directly beside a large window which affords a wide view: the wing is located above the fuselage, leaving no part of the airplane structure to interfere with scenic enjoyment.

There's a definite reason for the *Saturn's* low fuselage: the elimination of expensive ground handling equipment at small airports. Trucks can drive right up to the cargo door for loading and unloading, while passengers can enter and leave the plane on a small step which folds easily into the plane when in flight.

According to Gross, the first conception of the airplane was born following a Lockheed survey in which hundreds of potential regional airline operators were asked to outline specifications of their idea of an ideal regional transport. In addition, market research specialists crisscrossed the country, talking to housewives, businessmen, farmers, and others, and learning their views on air transportation.

When the Lockheed engineering and aerodynamic experts were given the compiled statistics, they set about translating the requirements on their drawing boards. There were 10 models of the *Saturn*, each with from 10 to 20 modifications. These spent 664 hours in the wind tunnel in 1,176 tests before final acceptance of the plane's exterior size and shape.

Gross revealed that construction on the craft began 2½ years ago, but the company was pulled off the job by Army and Navy requirements. This delayed the debut of the *Saturn* by about one year.

The Lockheed head called the *Saturn* a plane "for the world market," and he thinks it can "crack every country in the world, including the British countries." What does he think of the de Havilland *Dove*? "A very nice little plane—but little."

Gross is all for having the United States Government push feederlines here, just as it did the major air transport business.

Waterman Asks CAB For a Rehearing

Calculated to resolve the issue of whether American steamship companies may operate air service, the Waterman Steamship Corporation has filed an application with the Civil Aeronautics Board asking that the Board's recent refusal to grant it a certificate be aired for review and clarification. B. Geaslin, vice president and general counsel of the corporation, intimated that if Waterman's application for a rehearing is not granted he will take the matter to the courts.

New York to San Juan

Pan American Airways is offering daily nonstop flights between New York and San Juan, Puerto Rico.

Improvements in Air Traffic is ATA Goal

The Board of Directors of the Air Transport Association has voted an allocation of $307,350 for air navigation traffic control research. At the meeting presided over by Vice Admiral Emory S. Land, ATA president, it was decided to increase research efforts in the development and improvement of airline traffic in a special new program coordinated and in cooperation with the Civil Aeronautics Administration and the Army and Navy.

As further evidence of the airlines' determination to solve air traffic problems foreseen as resulting from rapidly expanding air travel, the directors of ATA, including six airline presidents and three alternates, voted to make the former ATA Operations Committee a full Conference, which gives it increased power to act in behalf of airlines on operations matters.

New active members admitted to Air Transport Association membership at the meeting included American Overseas Airlines, Alaska Airlines, Pacific Northern Airlines, Caribbean Atlantic Airlines, and Pan American Airways. Those brought in as full members had been associate members.

In addition to boosting the operations group to a full Conference, ATA also took another step to foster technical collaboration by approving an airline engineering committee which will be set up immediately. M. F. Redfern, secretary of the ATA Air Traffic Conference and of ATA, was made vice president in charge of traffic. He will continue his secretarial duties.

Douglas DC-4-1037 Built As Economical Cargoplane

Specially designed, engineered and built for the economical transportation of air cargo, the Douglas Aircraft Company has come out with a new plane known as the DC-4-1037. The company expects the craft to provide more range, more cargo space per horsepower, and more per dollar of operating cost than any other airplane heretofore designed.

The plane is designed as an all-cargo transport with a large 5½-foot-by-eight-foot cargo door, and a cargo capacity of 3,691 cubic feet. It has four auxiliary compartments for packaged freight.

Douglas stated that the 4.9-cent per ton-mile cost of the new cargoplane is far below the operating cost of present cargo transports, including *Skytrains* and *Skymasters*. The lowest operating cost of a cargo DC-3 was 10.4 cents per ton-mile with takeoff gross weight of 25,200 pounds. This was the maximum payload allowed under Civil Aeronautics Administration regulations until a short time ago. This has been modified, however, and the allowed maximum takeoff gross weight for this type of aircraft has been upped to 26,900 pounds, thus bringing the operating cost down to 8.2 cents per ton-mile.

The DC-4-1037 is said to raise the cargo capacity to 22,700 pounds, the range to 1,500 miles, and lowers the cost to 4.9 cents per ton-mile.

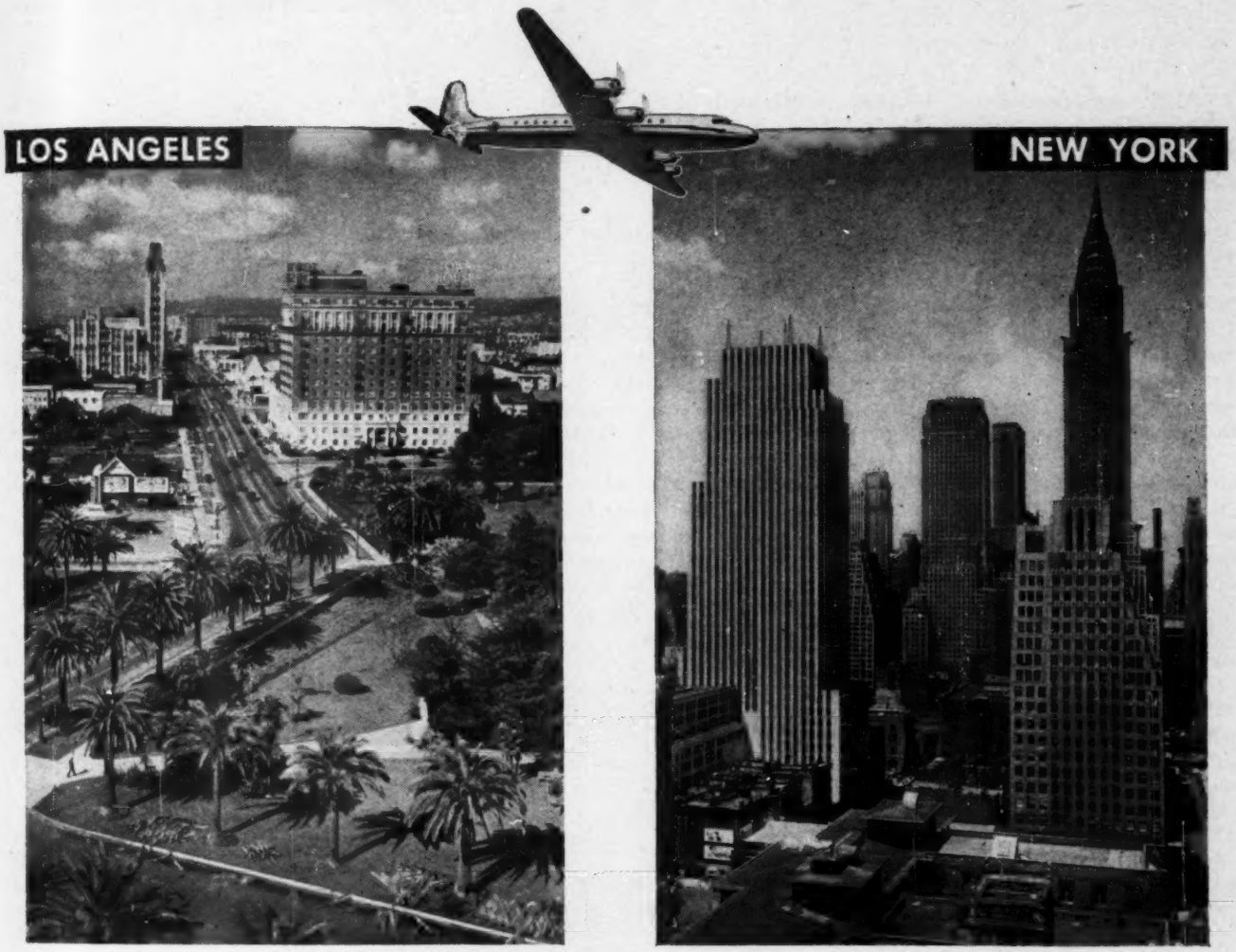
More AA Flights

American Airlines has added two nonstop Flagship flights between New York and Detroit, one of which operates between New York and Chicago.

Now, "Next-Door" Markets

via

American Airlines Airfreight



UTILIZING the speed, dependability and regularity of American Airlines Airfreight, hundreds of shippers are finding a new way to expand markets, gain new sources of supply and step up service to distributors, dealers and the public. By Airfreight, goods of infinite variety—including shoes, apparel, spare parts, baby chicks, jewelry—get to market faster. California melons reach tables in the East *days fresher* than formerly.

Overnight from coast-to-coast, mere hours for shorter distances—American Airlines Airfreight delivers pounds or planeloads at new reduced rates that make this service more economical than ever.

Where speed is your need, an American Airlines Airfreight expert can help you. Call your nearest American Airlines office for full information.

AMERICAN AIRLINES

The Big Job . . .

SIMPLIFYING TERMINAL PROBLEMS

By S. J. SOLOMON . . . President, Atlantic Airlines

THE simplification of terminal problems is the greatest job facing the air transport industry today. When I refer to "terminal" I am not limiting my thoughts to the airport as a terminal, but also the intown ticket office or point of dispatch of ground transportation to the airport as a terminal.

My views are not orthodox in any sense, nor have they been since I have been in the aviation industry. My associates in the industry will support that statement.

I believe that until such time as those of us in the air transport industry have adjusted our minds to thinking in terms of the great mass of our people as potential travelers and not limit ourselves to thinking of penetration only of the Pullman market, air transportation will not fulfill its purpose. To reach this market the cost of air transportation to the individual traveler must be reduced still further. To attain such a level terminal problems must be simplified insofar as they involve the handling of the passenger and his baggage, and also the handling of mail and cargo. The manner in which these items of payload are handled affect all terminal problems.

From 1933 to 1941, during the hectic days of air transportation which saw the development of the DC-2 and the DC-3, I managed the old Washington Airport which was well, but unfortunately, known throughout the country and even the world as probably the worst commercial airport in the country. Its safety record, however, was perfect.

During this period I was concerned, among *other* things, with ground delays of airplanes. Many a time I would prod the airlines and the tower operators to get those planes on the ramp loaded and get them away. I would dash up the control tower steps, wondering why the planes were held on the end of the runway. I would say, "Get them out or get them in. They can't be held."

"Growth of air transportation, and indeed all aviation, will be limited by the ability of terminals to handle the business and not by the lack of business."

I know many in the air transport business will remember the speed with which they were handled at that time. With only one runway, problems then were simpler than now. It was unfortunate that extensive efforts to simplify the terminal problems were not made in those early days. It is now much harder to change procedures.

Continuous efforts were made through discussions with some of the management personnel of the airlines looking toward joint handling of passenger reservations, ticketing and other facilities. At that time joint arrangements could not be worked out, except in the matter of gassing the airplanes. Individual initiative, the urge for promotion and rivalries were so great in the development of business that cooperative efforts seemed impossible of fulfillment.

Growth of air transportation, and indeed all aviation, will be limited by the ability of terminals to handle the business and not by the lack of business.

S. J. Solomon

If the terminals are to handle the business, all of their problems must be simplified. Testimony was given at the Middle Atlantic Case hearing conducted by the Civil Aeronautics Board, and this testimony was not contested or questioned in any way, that you could travel from city center of Washington to the city center of New York in less time in 1932 than you can today. This apparent lack of progress is the result of the delays resulting from the more complicated handling of passengers, and loading and unloading of planes which have more than offset the technological developments of the airplane.

Over the 226-mile rail distance, city center to city center, between these two cities a train—the *Congressional Limited*—operates at an average speed of approximately 63 miles per hour, including five stops. The air journey with no intermediate stops but including the ground transportation to and from airports has an average speed of only 75 miles per hour. I can point out further the necessity of simplifying terminal problems by saying that only several weeks ago, at LaGuardia Field, I saw a four-engine airplane unable to taxi away from the ramp because there were not sufficient men on the ground available to push away the steps.

Between New York and Chicago, with the four-engine plane, the elapsed time from the City of New York to the City of Chicago, city center to city center, is only slightly less, if any, than the DC-3 under the complicated procedure set up. The airline does not make use of the intown terminal for the checking in of passengers and their baggage, but requires the passengers to depart from the terminal 40 minutes ahead of the regular scheduled bus departure time in order to provide for these services at the airport.

Terminal problems must be simplified. Otherwise all of the advantage

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● The lowest rates in the history of scheduled air cargo go into effect August 17 on volume shipments via United Air Lines Air Freight.

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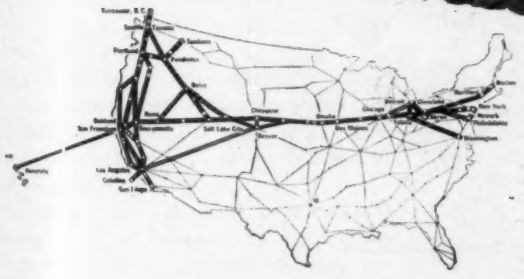
Air Freight is carried on all Mainliners as well as on the all-cargo, 5500-pound-capacity United Cargoliners. The 59 inch wide "barn door" of the Cargoliners permits air shipments of boxes up to 53 x 57 x 60 inches in size and narrower cartons up to 162 inches long.

A wide choice of fast, frequent flights to fit your needs . . . overnight service, coast-to-coast . . . service to 60 cities at new low rates—

the lowest rates in scheduled air cargo history—make United Air Freight a *must* for you.

Today, great varieties of merchandise can be shipped via United Air Freight. Write for free booklet telling how air freight fits into your business needs. United Air Lines, Air Cargo Division A-1, 231 South La Salle Street, Chicago 4, Illinois.



EXAMPLES OF UNITED'S NEW LOW RATES

3,000 lbs. Chicago-New York . . .	8½c lb.
5,000 lbs. Cleveland-Pacific Coast .	21¼c lb.
7,500 lbs. Chicago-New York . . .	7¾c lb.
7,500 lbs. Coast-to-Coast	23½c lb.
16,000 lbs. Coast-to-Coast	17½c lb.

UNITED PASSENGERS — UNITED AIR LINES — **AIR LINES** MAIL · EXPRESS · FREIGHT

accruing to air transport as the result of the great aeronautical advances that have been made can be lost on the ground. Of course, as distances increase or you cross great natural barriers, like the ocean, the importance of time lost at or between terminals in the same city diminishes.

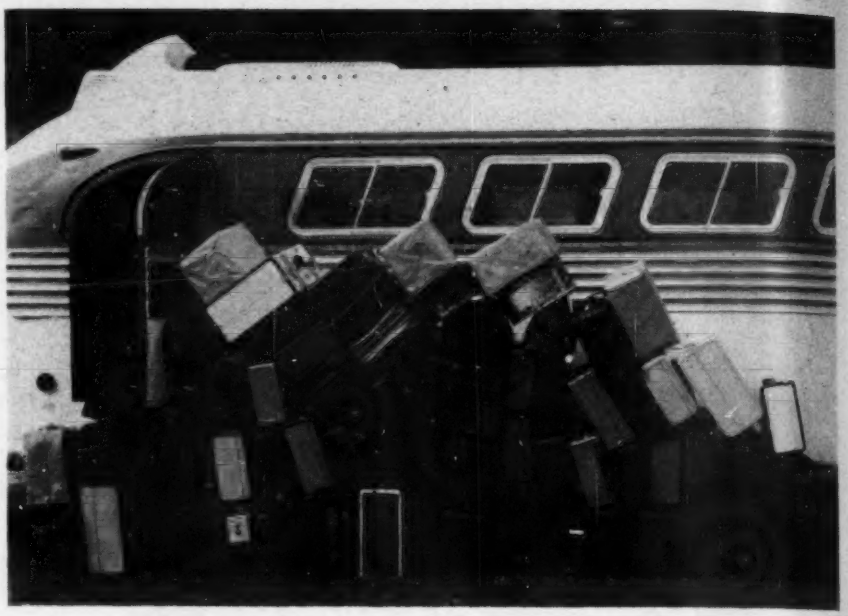
This article will not deal at all with the purely operational problems—the approach, landing, taxiing, or the take-off. However, I do have one recommendation to make from my own experience as an airport manager and that is, that the airport manager with full cooperation and authority from the airlines should be vested with more power to deal directly with those problems and to control them, perhaps being the spokesman for the airport area and the airlines with the Civil Aeronautics Administration traffic controllers. In this connection, it seems to me that over past years there has been a development that is fraught with some danger in that the airport manager has so many business problems in connection with airport concessions that the pure operation of airports receives less and less attention, resulting at times in the impression that the airport manager knows more about the gross receipts of the cocktail room or parking lot than he does of operational problems.

All-Inclusive Fare

In order to simplify terminal problems there must be at some point an all-inclusive fare covering ground transportation to and from airports in addition to the air fare. On the ground transportation unit to and from the airport there should be an attendant that will take care of many of the details of flight, the baggage, and the passenger.

Reservations systems must be simplified. Information as to flight dispatches must be uniform on the part of all airlines using a common airport. I suggest the use of a common telephone number where full information as to flight dispatch will be given. The number through the concentrated efforts of all the airlines could be as well and favorably known as is the number you dial to get the correct time or weather information.

In this respect air transportation has outgrown that period when air companies were reluctant to give any information as to flight delays. A full and frank disclosure can be made as to when an airplane will be delayed in its departure or delayed in its arrival. I go further and say that I see no reason why the cause of delay cannot be given by an appropriate display in the airline and airport terminal buildings—kept current at all times. Everyone here has had the experience of waiting around an airport one, two, or more hours, the reason unexplained.



ALL IN ONE—Baggage waiting to be loaded into the Flxible Company's new 23-passenger Airporter Club Coach. "There must be at some point an all-inclusive fare covering ground transportation to and from airports in addition to the air fare," writes Mr. Solomon.

If the airlines will cooperate in such a display, a procedure whereby they will depart at the announced time will be entirely practical and make unnecessary extensive efforts to locate a passenger who has temporarily disappeared or a $1.00 piece of air express unaccounted for. With frequent departures to almost every airline point, a passenger or express that temporarily cannot be located should be dispatched on an early departure rather than hold up those already sitting in the plane.

Ticketing of passengers must be simplified; and the checking-in of passengers must be limited to one check-in.

The Author

In August, 1933, S. J. SOLOMON participated with the late Amelia Earhart and others in the organization of National Airways, predecessor company of Northeast Airlines. Later that year he was elected vice president of the National Airport Corporation and manager of the Washington Airport, holding that position for eight years. With the airline he helped organize, he successively held the posts of vice president, president, and chairman of the board. He resigned on April 23, 1945, to form Atlantic Airlines, Washington, D. C.

During the war Solomon served as president and director of training of the Airlines War Training Institute, and for one year as the first chairman of the Airlines Committee for United States Air Policy. The subject of this article was also the subject of an address before the Society of Automotive Engineers.

If my idea with respect to the ground transportation to the airport is adopted, the flight manager accompanying the bus would ticket the passenger and check in the passenger and advise him as to boarding the airplane with his baggage in his own custody.

I do not intend to be critical of the present luxury handling of passengers. In my opinion the highly personalized service that airline personnel have so courteously extended over the years has been the greatest single factor in the development of air transportation. However, that system is no longer adapted to the mass movement of passengers that is in sight, and which will develop at an accelerated rate as fares are progressively reduced. *It has been proven that from fare decreases alone passengers will increase at the rate of two percent for every one percent reduction in cost.*

Of course, with the plans for mass movement of passengers there must be changes in the airplanes to make possible simplification of terminal problems. I list those things which I think are necessary to the rapid handling of passengers at a minimum of expense and effort on the part of the airline. There must be self-contained steps in the airplanes. This will make necessary doors that are located fairly close to the ground, otherwise airline men may be up against what appears to be a present trend, to have two or more flights of steps into an airplane.

There must be several entrances and exits to the airplane—not emergency exits, but full-size entrances and exit doors. The planes must have adequate

(Concluded on Page 47)

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Interline arrangements with four connecting airlines—Braniff Airways, Continental Air Lines, Inland Airlines and Western Air Lines—extend TWA's direct airfreight service to 82 major cities.

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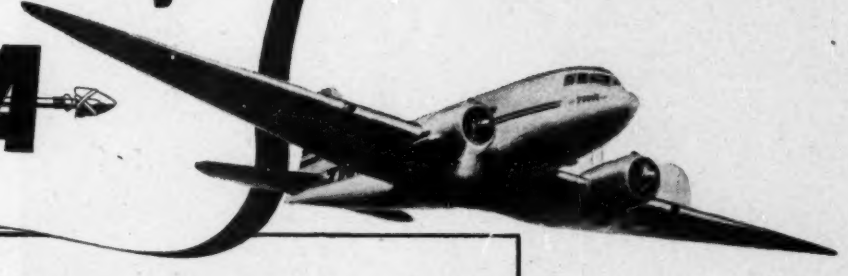

International air express service to Europe and the Middle East, as well.

THE PLANE . . .

A Business Tool

By MILTON REYNOLDS . . . Chairman, Board of Directors, Reynolds Pen Company

A top-flight businessman does some plain talking on air transportation

AIR-MINDED—Milton Reynolds in his own plane, Hasta la Vista, which takes him anywhere in a hurry.

THERE are two types of businessmen in America, as far as airplanes are concerned: those who use them, and those who don't.

Those who fly and use the plane as a modern, indispensable business tool wonder how they ever got along without it. Those who don't, will either be forced to recognize the value of the airplane in business or place themselves at a disadvantage in conducting their affairs.

Naturally, there are exceptions to this premise. But in the main, flying has become an integral part of our business life.

NEW ZEALAND BOUND—The author is shown taking some notes just before boarding a Pan American Airways Clipper on its first commercial flight to New Zealand. Reynolds is flanked by First Officer S. G. Bancroft (left) and Captain J. E. Anderson.

In the case of our own business, it has become a must. Last October, when we first introduced our ball-point pen to America, it was the airlines which spelled the difference between success and failure.

Our product—a revolutionary pen which writes two years without refilling and utilizes a tiny ball-bearing instead of a point—was introduced to the nation by Gimbel's department store in New York. Its acceptance by the public was so sudden and the demand so tremendous, that we were faced with the problem of delivering more than 1,000,000 pens to every section of the country in a matter of days.

It was impossible to make deliveries by any other means than air—if we wanted to sell the pens.

We took to the air in a big way and in a few short weeks became one of the largest shippers by air express in the world. The goods arrived in time to meet the holiday demand, and the Reynolds Pen Company went into business on a large scale.

In seven months we sold more than 2,000,000 pens and delivered most of them by air.

Personally, I have always favored the use of the plane in business. I have owned my own plane for nearly 14 years and have virtually girdled the globe in it on business trips. The use of this plane put me in close touch with South America and other important world markets. It enabled me to maintain a home in Mexico City and commute between there and Chicago.

To the impatient business man, the plane is the answer to annoying problems of time and distance.

The plane played a vital role in another business enterprise undertaken by myself and Franklin Lamb, president of the Reynolds Pen Company. In September, 1944, I became interested in a sterling silver cigarette lighter which was being manufactured by hand about 10 minutes from my home in Mexico City. This item was a natural for the Christmas trade, but terrific delays in shipment at that time made it a virtual impossibility to move a large quantity of lighters to the states for the holiday trade. Merchandise brought in in January, for example, frequently would not be delivered until July or August. We secured a ceiling price for the lighter and established volume manufacturing facilities in a matter of weeks. We air expressed all merchandise from Mexico City. Lighters manufactured on Monday were delivered in Chicago on Wednesday. We sold approximately 250,000 lighters before Christmas and became one of the largest users of air express in the nation at that time. The lighter was a small item and the cost of air express was only 25 to 30 cents on each item.

The airplane has radically changed our concept of international trade in a few short years. It has forced modern business men to completely realign their thinking in terms of both domestic and world markets.

In the past, foreign trade has too often been considered a slow and cumbersome field, something incidental to the larger, more important home market. Today, manufacturers are awakening to the vast market possibilities in the far corners of the globe—markets that now can be reached in a matter of hours by plane.

Because it is somewhat typical of air travel, I believe my recent trip to London may be of some interest to those concerned with sky commerce. I left New York at 4 p.m. on a Saturday afternoon and, on the plane, met a world traveler from China, who became interested in our pen and the possibility of shipping it by air to his place of business. Before the flight was concluded, he had given me a bona fide order for 100,000 pens.

I arrived in London the next day and conferred with Government officials and business leaders for three days. During that time, arrangements were made with the Prime Minister of Australia to establish a manufacturing and assembly plant in that country. Two days later I was in my office in Chicago, completing arrangements here for our expanded export business. In another week I was on my way to Australia by air to set up the plant.

I cite this experience merely to illustrate the tremendous advantages of air travel to the business man, whose hours are still no longer than the day.

This globe of ours is so small today that China, India, Africa, Russia and the other great undeveloped areas of the world are ready and available markets for enterprising Americans.

The export man of today is a mighty vital cog in the American picture and, because of the plane, he can take an order in London, have a business conference in Moscow, and close a deal in Shanghai all in a working week.

White Star Builds New Air Cargo Center at Teterboro

A prefabricated warehouse and a paved ramp area have been completed by the newly organized White Star Air Terminal Corporation at the Teterboro Air Terminal, Teterboro, New Jersey, and is currently in operation. The warehouse measures 32 by 98 feet, and the ramp area 800 by 75 feet. Future plans call for the erection of two hangars, with shop and office facilities for the air cargo operators utilizing the terminal.

The terminal is situated in the center of Bergen County, and is easily accessible to New York City and Westchester County, as well as to Newark, 35 minutes' trucking time away. The new White Star terminal is now being utilized by Meteor Air Transport, with a half-dozen or more additional operators expected within a short time. Provided are interim storage, loading and unloading facilities, with stress upon the lessening of turn-around time between loads. The new facilities make possible the early morning arrival of a West Coast aircraft, unloading, servicing, reloading, recrewing, and departure.

Cattle to be Flown To Greece by VAE

A pure-bred Jersey bull calf and two heifers are scheduled to take off from Newark Airport during the latter part of this month in a Veterans' Air Express cargoplane for Athens, Greece.

Although cattle have been air-shipped from the United States to certain northern cities of South America, this will be the first time that American Jersey cattle blood has gone eastward. The breeding stock was donated by the Borden Company, and will go through the Greek War Relief Association to the American Farm School in Greece.

CAB Decision Permits TACA to Fly Regularly Between U. S., Colombia

The Civil Aeronautics Board has granted a foreign air carrier certificate to the TACA Airways System to make regular flights between Colombia and the United States as a common carrier.

General Julius C. Holmes, TACA president, in commenting on the decision, said the new routes "will greatly strengthen and improve the company's position to serve all the Americas and enhance relations between the American republics." The CAB decision permits TACA of Colombia to fly between Bogota and intermediate points in Jamaica, an intermediate point in Cuba, and Miami; and between Bogota, intermediate points in Colombia, and Balboa, Canal Zone.

"TACA, owned and operated by United States and Latin American interests, is an example of true interamerican partnership," Holmes said, "and these new services will further cement the ties between North American and the Latin American republics. TACA is no stranger to thousands of Americans who have flown over our lines during the past 15 years. They have seen during those 15 years the development of Latin America's largest airline, an airline that has been the winner of safety awards year after year and one that has worked continually to contribute to the welfare of the nations and peoples it serves.

"Official entry of TACA into the United States marks the final step in the completion of a truly interamerican airline, dedicated to the service of the Western Hemisphere. As a common carrier, TACA now offers its full services to the traveler and cargo shipper on the same basis as United States carriers certified for international operations.

"The new routes are a logical development in the growth of the TACA Airways System, which now connects the United States with Mexico, all of Central America, Colombia, Ecuador, Venezuela and Brazil, as well as the Caribbean republics of Cuba and the Dominican Republic. The expansion of TACA to include regular scheduled flights from the United States and into this country from Latin America should help in developing trade and commerce between all the American nations, promote their general welfare and help to build, through travel, mutual understanding and friendship."

Helicopter Air Transport Awaits Arrival of S-51s

The first commercial helicopters to be used in industrial and other operations will soon be delivered to Helicopter Air Transport, Inc., of Philadelphia. According to the company the first models will be Sikorsky S-51s.

Heading Helicopter Air Transport is John Wilford, of Philadelphia and Oxford, Maryland. Associated with the company are Sigmund Janas, president of Colonial Airlines; Sigmund Janas, Jr., Colonial Airlines; Norman Edgar, a pioneer of air transport in Great Britain; Lou Leavitt, one of the earliest rotary wing pilots, and who landed the first autogiro on the 30th Street Post Office in Philadelphia in 1935; Joseph Parrish, one of the founders of Maine Air Transport Company; and Amos J. Peaslee, director of Alaska Airlines.

My Twelve Minutes with The MAGIC MISTRESS

By MITCHELL JABLONS . . . Mutual Broadcasting System

A thrill-by-thrill account by a well-known radio reporter who thought he'd like to burn up space in a Bell jet plane and came out calling it "Wonderful!"

I ONLY spent 12 minutes with the *Magic Mistress*, but as far as I'm concerned it was the thrill of my lifetime.

Perhaps I ought to explain a bit. The *Magic Mistress* is the name of a Bell *Airacomet* XP-59 jet plane, and my 12 minutes were spent with her hurling across the countryside at 464 miles per hour. I am not an aviation professional. By that I mean that while I have no connection with any phase of commercial aviation, either as a writer, pilot, or even model builder, flying certainly is one of my favorite avocations. That is why my ride with the *Magic Mistress* was all the more thrilling and unusual.

I imagine there aren't more than a dozen or so civilians who have ever flown in a jet plane, and when the opportunity was offered to me recently at the dedication of the Air Research Laboratory of the General Electric Company in Schnectady, New York, I hurriedly accepted. The *Magic Mistress* is actually a one-seat plane, but a small cockpit had been put into the nose of the ship just forward of the pilot's seat. A stout person couldn't fit into this seat, and the little cockpit was further encumbered by a mass of radio control apparatus which is used to direct the flight of a drone when the *Mistress* acts as a radio control mother ship.

I buckled on a parachute (first time I've ever worn one), was strapped in my seat, and Lieutenant Don Schultz of Wright Field, Ohio, cautioned me to make sure that the belt was tight. "You're in for a good ride," he promised.

Wearing a helmet and goggles for protection against the terrific wind, I bent low in the seat as I heard Lt. Schultz call over the intercom: "Ready up there?" I held up my thumb and forefinger joined in a circle, and then held by breath.

The two 1-16 GE jet engines which fitted snugly into the fuselage where the wings joined the body of the plane roared into action. There was no vibration. No thunder of engines. Just a loud whistling roar that reminded me of a huge peanut stand blasting on 100 cylinders. We moved swiftly down the runway, the earth started to fall away below us, and then I realized that I was airborne in a jet plane!

It's the smoothest ride in the world. No bumps, no vibration, no sensation of movement at all except for the terrific whistle of the wind as it tore back over my helmet in that uncovered cockpit. A wisp of low-hanging cumulus cloud seemed to be just within the touch of my hand and I had an impulse to reach up and grab at it to see what it was really made of. Fortunately I thought twice, and decided not to risk that forceful wind.

We circled over Schenectady and the Mohawk River to gain altitude, and since there was no instrument panel in my cockpit, I estimated our altitude at about 5,000 feet. The ground below went rushing by—not at all like the slow, crawling sensation one experiences in watching the ground pass beneath a logging airliner, as though it were unrolling from a slow spool. Banking sharply on our left wing until the horizon on my left seemed to be a thousand feet high, the *Magic Mistress* made a tactical pass at the field. Down, down, down, to about 250 feet we roared. The wind was screaming now, and involuntarily I crouched forward just a bit. This was speed. Roaring, blinding speed. And as Lieutenant Schultz told me after we landed, we were eating up space at 464 miles per hour. Trees, hangars, furrows, farms flashed by. Then it came. . . .

Schultz pulled back on the stick, and my head snapped back against the seat back. The skin and hair on my face pulled taut. It was by supreme effort that I manager to keep my jaw closed as the terrific force of gravity pulled against us as the *Mistress* shot up as though to rocket through the air and burst out of the earth's atmosphere itself. My stomach seemed to be pushing down against my knees. I tried to lift my hand—it was as though it weighed a thousand pounds and I couldn't raise it. Every nerve seemed to go taut and pull down on me like a stretched rubber band. My eyes closed involuntarily, and only when the pressure eased up a bit was I able to open them and look up. The ground seemed to be 5,000 feet above me!

It felt like as many years, but it had only taken about eight seconds for us to climb 5,000 feet, and as I looked at the ground above me I suddenly

(*Continued on Page 47*)

BELL AIRACOMET—The type of jet plane in which the author zipped through space at 464 miles per hour.

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Bolivia	Nicaragua
Brazil	Panama
Canal Zone	Paraguay
Chile	Peru
Colombia	Portugal
Costa Rica	Puerto Rico
Cuba	St. Lucia, BWI
Curaçao, NWI	St. Thomas, VI
Czechoslovakia	Senegal
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No Wonder Uncle Sam Is Worried!

The policy of the Civil Aeronautics Board denies American steamship companies the right to supplement their sea routes with SCHEDULED plane service—preventing natural expansion of American Merchant Marine—while allowing foreign shipping interests to fly planes to our shores.

THIS fast-moving world demands forward-looking decisions. Yet, the Civil Aeronautics Board has refused applications of American steamship companies for overseas air routes—although these have been sought without exclusive rights or privileges and would involve no expense to American taxpayers.

What is Your Stake?

You know the vital contributions of the American Merchant Marine in war and in peace. Our nation's world trade was developed by shipping companies. And victory was won through America's unequaled coordination of our sea and air arms. At all times, it is imperative that America have passenger liners convertible into troop-ships.

Today, however, realizing that many passengers will **fly** instead of traveling by **ship,** steamship companies hesitate to build fast passenger-carrying vessels. If steamship lines could have complementary air service, passenger revenues could be maintained and ship tonnage expanded.

Foreign Governments Are Awake to the Danger

Already, airlines controlled by foreign steamship companies have applied to the CAB for landing privileges in this country. **Such permission has been granted to Swedish, Norwegian, and Dutch companies.**

Your Benefits from Coordinated Sea-Air Service

You could purchase a single ticket—going by sea and returning by air or vice versa.

You would use the steamship companies' knowledge of trade conditions and tourist attractions in foreign countries.

You would benefit from our lower costs through use of the same personnel for both sea and air travel—and through attractive sea-air combination tours.

Above all, you would guarantee yourself a strong, well-rounded American Merchant Marine, while strengthening America's air transport industry.

The Waterman Record of Service

For 27 years, Waterman ships have extended American trade to all parts of the world. For over 20 years, we have given service to passengers, as well as to exporters and importers, between the mainland and Puerto Rico.

As long ago as 1939, realizing the need for air service to Puerto Rico, we acquired a plane, made survey flights, and applied for certificate for the route.

During the war, in addition to building and operating ships for the Government, we provided training for military pilots.

Since 1945, Waterman has operated the first intrastate air service between major cities in Alabama.

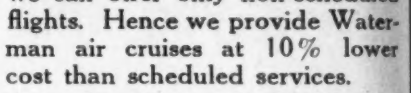
During July, we began NON-SCHEDULED air cruises from New Orleans and New York to Puerto Rico, West Indies, Latin America — flying the Douglas Skymaster, manned and serviced by skilled personnel.

Waterman pilots are fully certified by Civil Aeronautics Administration.

Whenever CAB permission is granted, Waterman will fly planes on **regular** schedule. At present, we can offer only non-scheduled flights. Hence we provide Waterman air cruises at 10% lower cost than scheduled services.

Don't You Believe that This Is Your Fight Too?

We make this appeal direct to you, believing that you will further the cause of the American Merchant Marine in its desire to have "ships grow wings" for the good of our nation.



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For illustrated folder and information on how you can fly via Waterman, call your travel agent or contact your nearest Waterman Steamship Office—New York, New Orleans, St. Louis, Chicago, Philadelphia, Mobile, Birmingham, Savannah, Boston, Buffalo, Pittsburgh, San Francisco, Norfolk, Gulfport, Miss., Memphis, Baltimore, Atlanta, Panama City, Tampa, San Juan, P. R.

DESIGNATED AIRCRAFT MAINTENANCE INSPECTORS FOR NONSCHEDULED AIRCRAFT

(Civil Aeronautics Administration)

REGIONS 1 TO 4 INCLUSIVE

REGION 1

Designation No.	Name and Mailing Address	Fixed Base of Operation
1314	Aimonetti, Felix P. 96 Burr Ave. Binghamton, N. Y.	Binghamton, N. Y.
172	Alexander, Herman S. R. D. No. 1, Williamsport, Pa.	Lycoming Airways Montoursville, Pa.
121	Anken, Wallace L. Staten Island Airport 2575 Richmond Ave. Staten Island, 2, N. Y.	Staten Island Airport Staten Island 2, N. Y.
1309	Barclay, Charles W. 2912 Washington Ave. Newport News, Va.	Scott Field Williamsburg, Va.
1231	Barone, Gasper A. 647 Sanderson Street Throop, Pa.	Scranton Airways Scranton, Pa.
16	Bean, Raymond B. 120 Stetson Ave. Swampscott, Mass.	Northeast Airlines Logan Airport Boston, Mass.
1218	Bischoff, J. A. Raoul Box 59, New Castle, N. H.	Yankee Airways Municipal Airport Portsmouth, N. H.
1244	Blenkin, William M. 33 S. Walnut St. Bath, Pa.	Braden's Flying Service Easton, Pa.
135	Bowman, Lee D. Chesterfield, N. H.	Bowman Flying Service Dillant-Hopkins Field Keene, N. H.
1228	Bowman, Simon L. 1015 Franklin St. Johnstown, Pa.	Salix Airport Salix, Pa.
1239	Boyce, Wilford E. 16 Marshall St. Akron, N. Y.	Buffalo Aeronautical Corp. Buffalo Airport Buffalo, N. Y.
1277	Boyes, William B. 74 Terrace Drive Shavertown, Pa.	Klisch Flying Service Wilkes-Barre Wyoming Airport Forty Fort, Pa.
1206	Brown, Gerald D. 4129 - 46th St. Sunnyside, L. I., N. Y.	MacArthur Field Islip, L. I., N. Y.
1222	Bryan, Merle A. P. O. Box 161 Tarentum, Pa.	Allegheny Valley Airport Tarentum, Pa.
1233	Buck, Clement E. East Bridge Street Lehighton, Pa.	East Pennsylvania Airport Andreas, Pa.
128	Buehl, Ernest H. Somerton Airport Philadelphia, Pa.	Flying Dutchman Air Service Somerton Airport Philadelphia, Pa.
1235	Burke, Charles W. 1012 Crawford Drive Rockville, Md.	Congressional Airport Rockville, Md.
176	Butler, Arnold S. 123 Tarrytown Road Manchester, N. H.	Airports Inc. Bolton Airport Clinton, Mass.
1275	Butler, Vincent A. Route 63, Lansdale Airport Lansdale, Pa.	V. A. Butler Sales & Service Lansdale, Pa.
160	Carpenter, Leonard J. Lake Avenue, R.F.D. 4 Lockport, N. Y.	Barker Trade School Barker, N. Y.
1257	Cascio, John F. 317 Roe Ave. Elmira, N. Y.	Elmira, N. Y.
1201	Cataldo, Ralph F. 11 Risley Road Brookline, 46, Mass.	R. I. State Airport Hillsgrove, R. I.
175	Chamberlain, Arnold M. Providence Airport Seekonk, Mass.	Providence Airport Seekonk, Mass.
114	Chase, Leo 128 Highgate Ave. Buffalo, N. Y.	Buffalo Aeronautical Corp. Municipal Airport Buffalo, N. Y.
165	Collins, Joseph A. 70 Cooper St. Lake George, N. Y.	Cape Aircraft Company Lake Falls, N. Y.
17	Connolly, Edmund T. Hollaston St. Hollaston, Mass.	Inter City Aviation, Inc. Logan Airport Boston, Mass.
1243	Cooper, Robert F. 11 Ronald Way Trenton, N. J.	Skycraft Repair Station Trenton, N. J.
1302	Cooper, Theodore R. Crowe Ave. Mars, Pa.	Bettis Airport Homestead, Pa.
1202	Crow, John R. Harrisburg Air Center Harrisburg, Pa.	Harrisburg Air Harbor Harrisburg, Pa.
1279	DeLong, James R. Doylestown Airport Doylestown, Pa.	Doylestown Airport Doylestown, Pa.
179	Dorion, Earl L. 913 Montpelier Ave. Erie, Pa.	Krantz Aeronautical Service, Port Erie Airport Erie, Pa.
186	Doherty, George A. 187 Lamartine St. Jamaica Plain, Mass.	N. E. Aircraft School Logan Airport Boston, Mass.
1200	Doyle, John J. 39 Brattle St. Worcester, Mass.	Westchester County Airport White Plains, N. Y.
1203	Duncan, Addward D. 3622 South Taylor St. Arlington, Va.	Hyde Field Clinton, Md.
1242	Eggenweiler, Floyd E. 136 N. 3rd St. Lehighton, Pa.	Lehighton Airport Lehighton, Pa.
11	Butler, Richard C. R. D. 1, Mohrsville, Pa.	Butler Field Mohrsville, Pa.
1224	Farone, Frank J. 109 Maitland St. New Castle, Pa.	New Castle Municipal Airport, New Castle, Pa.
178	Field, Joseph A. 17 Forman St. Bradford, Pa.	Airport Club of Bradford, Inc., Harri Emery Airport Bradford, Pa.
190	Franke, Walter R. Box 909 Charlottesville, Va.	U. of Virginia Airport Charlottesville, Va.
1217	Frederickson, Uno F. 10 Harding Road Norwood, Mass.	R. W. Wiggins, Airways, Inc. Norwood, Mass.
167	Gaas, John W. 136 S. Hilton St. Baltimore 29, Md.	Glen Burnie Airport Glenburnie, Md.
1261	Gasbarro, Victor J. 32 Johnson Ave. Blairsville, Pa.	County Airport Pittsburgh, Pa.
1253	Gay, Robert T. P. O. Box 381 Danielson, Conn.	Mayer Airport Bridgeville, Pa.
168	Geltz, Roy K. P. O. Box 811, Lancaster Airport, Lancaster, Pa.	Lancaster Airport Lancaster, Pa.
1284	Gibson, Paul A. Hitt Flying Service Endicott, N. Y.	Hitt Flying Services Tri-Cities Airport Endicott, N. Y.
145	Goldsmith, Arthur A. 7 Sacramento St. Nashua, N. H.	Municipal Airport Nashua, N. H.
1300	Gorczyca, Stanley J., Jr. 490 Newkirk St. Carnegie, Pa.	Bettis Airport Homestead, Pa.
1200	Gorss, Gerald F. Union St. Montgomery, N. Y.	Montgomery Airport Montgomery, N. Y.
1301	Greenwood, Frederic M. Airport North Springfield, Vt.	Airport North Springfield, Vt.
1900	Greer, Carrol L. Box 58, Troutdale, Va.	Lynchburg Air Transport & Sales Corporation Lynchburg, Va.
1300	Grieder, Charles K. Marlins Creek Airport, Box, 35, Belvidere, N. J.	Martins Creek Airport Belvidere, N. J.
181	Gruhn, Harold R. Box 65, Newburyport, Mass.	Plum Island Airport Newburyport, Mass.
1221	Gunter, Clarence L. R. D. No. 1, Box 38 Winfield, W. Va.	Clark Field Winfield, W. Va.
12	Hall, George L. Municipal Airport Burlington, Vt.	Municipal Airport Burlington, Vt.
1220	Hamilton, David J. 765 Locust St. Indiana, Pa.	Hamilton Airport Indiana, Pa.
1221	Harabes, John P. 23-07 37th Ave. Long Island City, N. Y.	Speed's Flying Service, Inc. Flushing Airport, N. Y.
1208	Harad, Emanuel 111 S. Scott St. Wilmington, Del.	Dover Airport Dover, Del.
1270	Harris, Paul C. 123 Severn Road Norfolk, Va.	Norfolk, Va.
1288	Harris, Robert J. Box 35, Belvidere, N. J.	Marlins Creek Airport Belvidere, N. J.
1273	Hass, Hans H. W. 722 Spruce St. West Reading, Pa.	Reading Aviation Service Reading Airport Reading, Pa.
131	Hatcher, Frank E. Montvale, Va.	Buford's Airport Montvale, Va.
1273	Henderson, Oral O. Route No. 2, Box 443 Charleston, W. Va.	Bollinger Field Charleston, W. Va.
1219	Henry, George S. 701 Ridgeway Ave. Morgantown, W. Va.	W. Va. University Municipal Airport Morgantown, W. Va.
1216	Henry, Weston W. 13 Warren St. Raynham Center, Mass.	King Aviation King Field Taunton, Mass.
188	Herrell, Preston L. P. O. Box 144 Ridgeway, W. Va.	Herrell's Field Ridgeway, W. Va.
162	Hilgartner, Charles M. 239 West Chestnut St. Hanover, Pa.	Curtiss Wright Airport Baltimore, Md.
147	Hilton, Gareth B. 117 East 4th St. Mt. Vernon, N. Y.	Teterboro Air Terminal Teterboro, N. J.
1211	Hopkins, Alfred H. 39 Connecticut Blvd. East Hartford, Conn.	Simsbury Airport Simsbury, Conn.
171	Hopkins, Clarence V. 824 Brunswick Road Baltimore, Md.	National Airmotive Baltimore Municipal Airport, Baltimore Md.
163	Hopkins, James W. 79 Irving Ave. East Providence 14, R. I.	Nelson Aviation Service, Inc., State Airport Hillsgrove, R. I.
169	Hostetter, Oscar L. York Airport Thomasville, Pa.	York Airport Thomasville, Pa.
1241	Howard, James W. P. O. Box 128 Red Bank, N. J.	Red Bank Airport, Inc. Red Bank, N. J.
1249	Irvine, David Raymond 503 22nd Ave. Altoona, Pa.	Altoona Blair County Airport, Martinsburg, Pa.
117	Irving, William R. 884 Edgemear Drive Rochester, N. Y.	Rochester, N. Y.
164	Jennings, Perry H. Box 44, Fitchburg Airport Fitchburg, Mass.	Jennings Bros. Air Service Fitchburg Airport Fitchburg, Mass.
139	Jones, Walter 3619 Florida Road Baltimore 7, Md.	Curtiss Wright Airport Baltimore, Md.
1282	Jones, William D. Layfield Airport Gilbertsville, Pa.	Layfield Airport Gilbertsville, Pa.
1236	Kelly, John R. 149 West 97th St. New York, 25, N. Y.	149 West 97th St. New York, 25, N. Y.
117	King, Virgil S. Warren Airport Warren, Pa.	King Air Service Municipal Airport Warren, Pa.
1240	Klein, Robert S. Kutztown Airpark Kutztown, Pa.	Kutztown Airpark Kutztown, Pa.
1247	Kleinberg, John C. 2 Wallace Ave. Clementon, N. J.	Almonesson, N. J.
1210	Klish, Arthur A. 7 Park St. Greenfield, Mass.	Turners Falls Airport Turners Falls, Mass.
113	Krantz, Julian H. 822 Greenmuth Ave. Erie, Pa.	Krantz Aeronautical Service, Port Erie Airport Erie, Pa.
1212	Lambert, Robert A. 15 Baker Ave. South Meriden, Conn.	Meriden Airport Meriden, Conn.

Designation No.	Name and Mailing Address	Fixed Base of Operation
174	Lambertson, Howard 11 Russell St. Waterville, Me.	Tomlinson & Lambertson Airport Skowhegan, Me.
1233	Larson, Stirling M. Hooksett Airport Hooksett, N. H.	Hooksett Airport Hooksett, N. H.
158	Laudenslager, John J. P. O. Box 108 Rutland, Vt.	Rutland Airport Rutland, Vt.
1271	Lee, Travis B. 53 Federal St. Lynchburg, Va.	Lawrenceville, Va.
1234	Lenehan, Richard O. 17 Pauline Ave. Brockton 54, Mass.	Brockton Airways Brockton Airport Brockton, Mass.
104	Lichtenberg, Max 2106 F St., N. W. Washington 7, D. C.	Leesburg, Va.
1237	Litts, Robert C. P. O. Box 5 Matamoras, Pa.	Matamoras, Pa.
170	Livezey, Joseph, Jr. Taneytown Airport Taneytown, Md.	Taneytown Airport Taneytown, Md.
183	Lowe, William A. c/o Hughes School Danville, Va.	Southern Airways of Danville Danville, Va.
1265	Maley, Irving E. 1930 Military Road Tonawanda, N. Y.	Eastern Aero Service Tonawanda, N. Y.
1267	Malone, William E. 16 Rounds Ave. Buffalo, N. Y.	Buffalo Air Park, Inc. 4500 Clinton St. Gardenville, N. Y.
131	Marston, Caleb J. Laconia Airport Laconia, N. H.	Skyhaven Inc. Laconia Airport Laconia, N. H.
1226	Martin, Joseph W. 620 N. Center Ave. Somerset, Pa.	Rhoads Field Somerset, Pa.
1227	Mastrangelo, Ernest D. 406½ E. Garfield Ave. New Castle, Pa.	Grove City Airport Grove City, Pa.
1228	Matisa, Frank T. Leechburg Airport Leechburg, Pa.	Leechburg Airport Leechburg, Pa.
1204	Milks, Horace W. 68 Utica St. Hamilton, N. Y.	Colgate University Airport Hamilton, N. Y.
199	Moore, Aloysius J. 324 State St. Baden, Pa.	Patterson Heights Beaver Falls, Pa.
173	Morton, D. Leslie 537 Concord St. Framingham, Mass.	E. W. Wiggins Airways Airport Norwood, Mass.
1206	Mossinger, Arland I. 117 North Tiorunda Drive Buffalo 11, N. Y.	Salamanca Airport, Inc. Salamanca, N. Y.
154	Mundy, Arnold V. 231 East Ave. East Rochester, N. Y.	Municipal Airport Rochester, N. Y.
1246	Nelson, Donald C. Box 33, Swiftwater, Pa.	Swiftwater, Pa.
195	Nikhazy, Raymond D. 1320 Marshall Ave. N. S. Pittsburgh, Pa.	Congressional Airport Rockville, Md.
191	Nolin, Joseph H., Jr. 9 Prospect Ave. Troy, N. Y.	O'Connor Aircraft Co. Albany Airport Albany, N. Y.
153	Nyholm, Paul O. 96 Fairview Blvd. Hempstead, N. Y.	Roosevelt Field Mineola, N. Y.
155	Ogren, Magnus G. 198 Standish St. Hartford, Conn.	Brainard Field Hartford, Conn.
192	O'Hara, Paul 197 North James St. Rome, N. Y.	Utica Municipal Airport Utica, N. Y.
[illegible]	[illegible]	[illegible]
[illegible]	Robinson Airlines Ithaca, N. Y.	Municipal Airport Ithaca, N. Y.
150	Patka, Stephen A., Jr. R. D. #1, Campville, N. Y.	Tri-Cities Airport Endicott, N. Y.
1215	Penta, Robert L.	Danville, N. Y.

Designation No.	Name and Mailing Address	Fixed Base of Operation
182	Skelton, Warren B. Municipal Airport Jamestown, N. Y.	Municipal Airport Jamestown, N. Y.
1248	Smaagaard, Charles G. Stewart Field Parkersburg, W. Va.	Stewart Field Parkersburg, W. Va.
157	Smith, Don P. O. Box 3, Brookfield, Conn.	Brookfield Airport Brookfield, Conn.
1259	Stark, Robert F. R. D. #1, Whitehouse, N. J.	Solber-Hunterdon Airport Whitehouse, N. J.
116	Thropp, John E., 3rd DuPont Airport Wilmington, Del.	DuPont Airport Wilmington, Del.
132	Townson, George W. 4608 Vista St. Philadelphia 36, Pa.	Boulevard Airport Philadelphia, Pa.
1225	Urbany, Ambrose M. Vine St. Carmichaels, Pa.	Waynesburg Municipal Airport Waynesburg, Pa.
1263	VanArtsdalen, Benjamin S. Orchard Ave. Southampton, Pa.	Lavelle Aircraft Corp. Newtown, Pa.
1278	Van Houten, Roy R. F. D. 1, Wycoff, N. J.	Aero Flying Service Lincoln Airport Lincoln Park, N. J.
181	Vance, Lamont C. Ripley Airport Ripley, N. Y.	Vance Flying Service Ripley Airport Ripley, N. Y.
111	Walker, Everett M. 2407 Main St. Glastonbury, Conn.	Unlimited in the State of Connecticut
152	Watson, Floyd N. Municipal Airport Rochester, N. Y.	Municipal Airport Rochester, N. Y.
1236	Whitmore, Richard R. Gordonsville Municipal Airport Gordonsville, Va.	Gordonsville Municipal Airport Gordonsville, Va.
167	Williams, Jefferies A. 601 Wise St. Hagerstown, Md.	Hagerstown Airport Hagerstown, Md.
168	Wiselman, Leon 22 York St. Gettysburg, Pa.	Boulevard Airport, Inc. Gettysburg, Pa.
188	Worley, Sam, Jr. Box 268 Farmville, Va.	Virginia Aeronautical Co. Farmville, Va.
112	Wright, Albert G. R. D. #1, Box 6 Broadalbin, N. Y.	Amsterdam Flying Service Amsterdam, N. Y.

REGION 2

267	Armistead, Stanton R. 47 Morgan Ave. Montgomery, Ala.	Alabama Air Service Montgomery, Ala.
230	Ashley, James L., Jr. Lovell Field Chattanooga, Tenn.	Lovell Field Chattanooga, Tenn.
258	Baker, Walter R. Box 90, Union City, Tenn.	Kenson Field Union City, Tenn.
222	Barfield, James W. P. O. Box 435 Miami Springs, Fla.	36th St. Airport Miami, Fla.
218	Battersby, Russell E. 152 N. W. 34th St. Miami 27, Fla.	Chapman Field Miami, Fla.
256	Bell, Harold Route 3, Box 58A Vicksburg, Miss.	Municipal Airport Vicksburg, Miss.
237	Bigham, Dick S. Dixie Air, Inc. Van de Graaff Field Tuscaloosa, Ala.	Dixie Air, Inc. Van de Graaff Field Tuscaloosa, Ala.
216	Brown, Floyd J. [illegible]	Piedmont Aviation, Inc. Winston Salem, N. C.
[illegible]	[illegible]	[illegible] Albany, Ga.
240	Carriker, Paul Box 156, Hertford, N. C.	Resort Airlines, Inc. Pinehurst, N. C.
243	Cloud, John W., Jr. P. O. Box 584	Central Aircraft Company Griffin-Spalding Airport

Designation No.	Name and Mailing Address	Fixed Base of Operation
239	Kirk, Edward T. 155 N. Bellevue St. Memphis, Tenn.	Memphis Vocational School 612 Adams Ave. Memphis, Tenn.
228	Knapp, Franklin N. P. O. Box 430, Clarksville, Tenn.	Outlaw Field Clarksville, Tenn.
23	Kurth, Karl K. Lovell Field Chattanooga, Tenn.	Lovell Field Chattanooga, Tenn.
232	Lawrence, Wilburn L. 201 Elder St. Wilson Dam, Ala.	T. V. A. Airport Muscle Shoals, Ala.
27	McLean, Marshall E. Gibsonville, N. C.	McLean Airport Gibsonville, N. C.
234	Maddox, Loyd A. 3298 Park Ave. Memphis, Tenn.	Southern Air Service Sanders Field Glover, Miss.
265	Modlen, Frank J. Interstate Airlines, Inc. Cedartown Airport Cedartown, Ga.	Municipal Airport Cedartown, Ga.
252	Meyer, Oscar A., Jr. Box 648, Hendersonville, N. C.	Meyer Flying Service Hendersonville, N. C.
219	Misel, George E. Southeastern Air Service, Inc., Ben Epps Field Athens, Ga.	Southeastern Air Service, Inc., Ben Epps Field Athens, Ga.
241	Monschke, Samuel R. Box 42, Orangeburg, S. C.	Hawthorne Flying Service Orangeburg, S. C.
268	Munday, Robert G. 5512 Avenue O Central Park Birmingham, Ala.	Southern Airways Birmingham, Ala.
249	Pitts, Curtis H. 2812 Sunnyside St. Jacksonville, Fla.	Hart Field Jacksonville, Fla.
213	Pitts, Robert C. P. O. Box 86 Auburn, Ala.	Auburn-Opelika Airport Auburn, Ala.
251	Pullen, Edwin F. Box 67 Wallace, N. C.	Wallace Airport Wallace, N. C.
226	Reynolds, William M. 653 Holly Ave. Winston-Salem, N. C.	Hawthorne Flying Service Municipal Airport Greensboro, N. C.
270	Rodgers, Charles B. 548 Curtiss Parkway Miami Springs, Fla.	International Airport Miami, Fla.
233	Seaton, Harold B. Paris Ave. Adel, Ga.	Adel, Ga.
236	Tinkham, Sherman L. 505 3rd Street, Apt. 1 Clarksdale, Miss.	Municipal Airport Clarksdale, Miss.
261	Toth, Joe 41 West 14th St. Hialeah, Fla.	Miami International Airport Miami, Fla.
264	Toward, Richard C. 204 Phillis Drive Marietta, Ga.	Southern Airways, Inc. Atlanta, Ga.
253	Tucker, V. Wayne 409 East Forth King Ave. Ocala, Fla.	Taylor Field Ocala, Fla.
223	Weaver, Eugene F. 216 Laffayette St. Starkville, Miss.	Oktibbeha Airport Starkville, Miss.
220	White, Benjamin O. P. O. Box 522 Clarksdale, Miss.	Moorhead, Miss. (Everett Field) and Clarksdale, Miss. (Fletcher Field)
250	White, Hulon L. Box 594 Tuskegee Institute Tuskegee, Ala.	Tuskegee Aviation, Inc. Tuskegee, Ala.
266	Willard, Delma R. 2040 East Sprague St.	Piedmont Aviation, Inc. Smith-Reynolds Airport Winston-Salem, N. C.
248	Williamson, Curtis F. [illegible]	Municipal Airport [illegible]
2280	Wilson, C. Hearn 2703 Emogene St. West Lawn Mobile, Ala.	Bates Field Mobile, Ala.
231	Winchester, Thomas P. 502 W. Franklin St.	Municipal Airport Columbia, S. C.

Designation No.	Name and Mailing Address	Fixed Base of Operation
375	Fowler, Arnold C. Municipal Airport Danville, Ill.	Municipal Airport Danville, Ill.
344	Goulding, William T. 502 Northwestern Drive Adrian, Mich.	Prentice Aircraft Sales & Service Adrian City Airport Adrian, Mich.
370	Groh, Bertram F. Twin City Flying Service Benton Harbor, Mich.	Twin City Flying Service Benton Harbor, Mich.
348	Hance, Joseph W. 14525 Eureka Road Wyandotte, Mich.	Hance Flying Service Wyandotte, Mich.
382	Haugh, Herbert R. 200 College St. Urbana, Ohio	
340	Hogan, Joseph C. R. R. #8 Hamilton, Ohio	Hamilton Airport Flying School R #8, Hamilton, Ohio
374	Holm, Ralph F. Municipal Airport Peoria, Ill.	Municipal Airport Peoria, Ill.
31	Holsapfel, Frank W. 2308 Wrocklage Ave. Louisville, Ky.	Bowman Field Louisville, Ky.
300	Hottes, Walter 1815 Lamar Ave. Mt. Vernon, Ill.	Mt. Vernon Airport Mt. Vernon, Ill.
342	Houser, Ronald W. 26 E. Vine St. Oxford, Ohio	Miami University Airport Oxford, Ohio
373	Jacobsen, Arthur 32252 Hilladale St. Wayne, Mich.	Aero Services, Inc. 4790, US-23 Ypsilanti, Mich.
**	Jankovich, Nick Gary Airport Gary, Ind.	Gary Airport Gary, Ind.
358	Key, Ernest L. Chesterfield, Ind.	Ernest Key Aircraft Serv. Anderson Airport Anderson, Ind.
360	Knesovich, George J. 402 East 25th St. Hibbing, Minn.	Municipal Airport Hibbing, Minn.
318	Koerner, Delbert W. Route #2, Kankakee Airport Kankakee, Ill.	Kankakee Airport Kankakee, Ill.
398	Krouse, Benjamin F. 526 9th Ave., S. St. Cloud, Minn.	Van's Air Service St. Cloud, Minn.
337	Kucera, Elmer D. Box 90, Fox River Grove, Ill.	Pal-Waukee Airport Wheeling, Ill.
378	Lackey, Gordon 3601 East 38th St. Indianapolis, Ind.	Sky Harbor, Inc. Sky Harbor Airport 8500 E. 21st St. Indianapolis, Ind.
384	Luman, Robert F. 1100 N. Raynor Ave. Joliet, Ill.	Lewis School of Aeronautics Lockport, Ill.
315	Lysdale, Jack P. Victory Airport Camden Station, Route #5 Minneapolis, Minn.	Victory Airport Camden Station, Route #5 Minneapolis, Minn.
368	Lysdale, John D. Box 311, Pipestone, Minn.	Pipestone Aviation Pipestone, Minn.
345	Lytle, Jacob W. 70 E. Bridge St. Berea, Ohio	General Airmotive Corp. Municipal Airport Cleveland, Ohio
389	McChesney, John C. 713 Falling Springs Road Maplewood, Ill.	Parks Air College East St. Louis, Ill.
351	Maisonneuve, Paul F. 255 S. Marsteller St. West Lafayette, Ind.	Purdue Aeronautics Corp. Purdue University Airport West Lafayette, Ind.
396	Mohr, Fred William Box 552, Airport Albert Lea, Minn.	Airport Albert Lea, Minn.
352	Norman, Clark c/o C. E. Norman [illegible]	Roscoe Turner Aero. Corp. Municipal Airport [illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible] 22651 Garrison St. Dearborn, Mich.	[illegible] Kristport Airport Farmington, Mich.
362	Pearson, Emmet D. c/o Akron Airways, Inc. Municipal Airport	Akron Airways, Inc. Municipal Airport Akron, Ohio

	198 Standish St. Hartford, Conn.	Hartford, Conn.
192	O'Hara, Paul 187 North James St. Rome, N. Y.	Utica Municipal Airport Utica, N. Y.
	Robinson Airlines Ithaca, N. Y.	Ithaca Municipal Airport Ithaca, N. Y.
150	Patka, Stephen A., Jr. R. D. #1, Campville, N. Y.	Tri-Cities Airport Endicott, N. Y.
1215	Penta, Robert L. 19 Morse St. Dansville, N. Y.	Dansville, N. Y.
1254	Perkovic, Steve 372 Butler St. Etna, Pa.	Port Meadville Airport Meadville, Pa.
1213	Perry, Ira E. 1260 Zerega Ave. New York, N. Y.	New Haven Municipal Airport New Haven, Conn.
185	Pettus, Louis R. P. O. Box 1388 Martinsville, Va.	Martinsville Airport Martinsville, Va.
159	Pranaitis, George S. P. O. Box. 537 Hartford 1, Conn.	Unlimited in the State of Connecticut
1232	Pyle, Herbert J. 29-01 165 St. Flushing, N. Y.	Atlantic Aviation Corp. Bendix, N. J.
1280	Rauscher, Joseph F. Beech Ave. Laurel Springs, N. J.	Echelon Air Service Echelon Airport Ashland, N. J.
148	Reutter, Herbert L. Syracuse Municipal Airport Syracuse, N. Y.	Syracuse Municipal Airport Syracuse, N. Y.
1276	Richards, Raymond D. 458 Harding Ave. Lyndhurst, N. J.	Caldwell Wright Airport Caldwell, N. J.
149	Rigor, Mark North Delsea Drive Vineland, N. J.	Vineland, N. J.
14	Roakes, Merritt R. R. F. D. #1, Box 108 Cumberland Center, Me.	Northeast Aviation Co. Municipal Airport Portland, Me.
1274	Robertson, James B. 23 William St. Summit, N. J.	Hadley Airport New Brunswick, N. J.
1238	Rothbauer, John D. R. D. #2, Blairstown, N. J.	Aviation Schools & Service Blairstown, N. J.
150	Sadler, Clifford, E. R.F.D. 2, Fairfield, Conn.	Municipal Airport Danbury, Conn.
196	Samuels, Russell W. R.F.D. 4, Box 191 Alexandria, Va.	Beacon Airport Alexandria, Va.
198	Scanlan, Lawrence J. 213 Liberty Ave. Cresson, Pa.	Keystone Airport Ebensburg, Pa.
1206	Schaaf, George H. 65 Highland Road Great Kills Staten Island 8, N. Y.	Donovan-Hughes Airport Greenridge Staten Island, N. Y.
142	Scheder, George J. 27 Glaize Ave. Winchester, Va.	Winchester Municipal Airport Winchester, Va.
119	Scholter, Kenneth W. Pittsburg-Butler Airport R. D. 6, Butler, Pa.	Pittsburg-Butler Airport R. D. 6 Butler, Pa.
1207	Schopenhauer, Jack 23 Hoffman Road New Hyde Park, L. I., N.Y.	Newark Airport Newark, N. J.
1272	Scott, Gordon B. Box 121, Houlton, Me.	Caribou Flying Service Municipal Airport Caribou, Me.
1262	Scott, Robert S. 316 Tennis Ave. Ambler, Pa.	Aero. Service Corp. Wings Field Ambler, Pa.
1245	Seaburg, Louis W. 38 Headly Terrace Irvington, N. J.	Irvington, N. J.
1205	See, Clarence W., Jr. Route 3, Baldwinsville, N. Y.	Syracuse Municipal Airport Syracuse, N. Y.
197	Shaffer, John R. 1419 32nd St. Parkersburg, W. Va.	Wood County Airport Parkersburg, W. Va.
160	Simmons, William B. 168 South Main St. Putnam, Conn.	Putnam Technical School Putnam, Conn.
237	Bigham, Dick S. Dixie Air, Inc. Van de Graaff Field Tuscaloosa, Ala.	Dixie Air, Inc. Van de Graaff Field Tuscaloosa, Ala.
216	Brown, Floyd J. Piedmont Aviation, Inc. P. O. Box 188 Albany, Ga.	Piedmont Aviation, Inc. Winston-Salem, N. C. Albany, Ga.
240	Carriker, Paul Box 156, Hertford, N. C.	Resort Airlines, Inc. Pinehurst, N. C.
245	Cloud, John W., Jr. P. O. Box 584, c/o Central Aircraft Co. Griffin-Spalding Airport Griffin, Ga.	Central Aircraft Company Griffin-Spalding Airport Griffin, Ga.
238	Cox, Harold J. Southern Airways, Inc., Box 1211 Municipal Airport Charlotte, N. C.	Southern Airways, Inc. Municipal Airport Charlotte, N. C.
262	Deyell, Robert D., Jr. 008 E. Hampton St., Box 46, Camden, S. C.	Municipal Airport Camden, S. C.
242	Dixon, Tom C. Box 403, Burlington, N. C.	Burlington Municipal Airport Burlington, N. C.
229	Durham, Charles H. 1105 Nickerson Ave. Knoxville, Tenn.	Knoxville Municipal Airport Knoxville, Tenn.
211	Edney, Frank B. Box 169, Greenwood, Miss.	Municipal Airport Greenwood, Miss.
263	Eicher, George H. 206 N. W. 14th St. Homestead, Fla.	Homestead Municipal Airport Homestead, Fla.
224	English, Noel E. P. O. Box 1015 Hattiesburg, Miss.	McLaurin Airport McLaurin, Miss.
38	Fatherree, James B. 84 Glendale Drive Miami Springs, Fla	Miami International Airport Miami, Fla.
2270	Gibson, Robert L., Jr. Hawthorne Flying Service P. O. Box 2580, Greensboro, N. C.	Hawthorne Flying Service Municipal Airport Greensboro, N. C.
259	Ginn, Bub H., Jr. 307 Hammond St. Spartanburg, S. C.	Moss & Brown, Inc. Fairforest Airport Spartanburg, S. C.
255	Grant, William A. Barnes Aircraft Lumberton, N. C.	Municipal Airport Lumberton, N. C.
244	Graves, Blanks Joe 606 Forsyth St. Macon, Ga.	Griffin-Spalding Airport Griffin, Ga.
227	Greenwood, Ralph H. P. O. Box 275 Wadesboro, N. C.	Municipal Airport Wadesboro, N. C.
235	Hediger, Louis H. Shelby County School of Aeronautics Whitehaven, Tenn.	Shelby County School of Aeronautics Whitehaven, Tenn.
209	Hendrix, R. B. 395 Union Ave. Memphis, Tenn.	Wright Aircraft Sales & Service 225 Union Ave. Memphis, Tenn.
24	Hilbert, Joseph L. Tri-City Airport Johnson City, Tenn.	Tri-City Airport Johnson City, Tenn.
217	Holst, Charles H. 1208 Edgewood Ave. Anderson, S. C.	c/o Jean N. Brannon P. O. Box 871, Municipal Airport Greenville, S. C.
248	Hudson, Houston H. Municipal Airport Tallahassee, Fla.	Municipal Airport Tallahassee, Fla.
247	Humbles, Austin H. Box 795 Tuskegee Institute Tuskegee, Ala.	Tuskegee Institute Tuskegee, Ala.
221	Johnson, Laney N. 1707 Richard St. Columbus, Ga.	Municipal Airport Columbus, Ga.
257	Justice, Bert Box 555, Pickens, Miss.	Pickens Municipal Airport Pickens, Miss.
225	Justice, Foy K. P. O. Box 1028 Charlotte, N. C.	United Aero Service Delta Air Base Charlotte, N. C.
243	Justice, Jasper L. P. O. Box 1507 Raleigh, N. C.	Raleigh Municipal Airport Raleigh, N. C.
266	Willard, Delma R. 2040 East Sprague St. Winston-Salem, N. C.	Piedmont Aviation, Inc. Smith-Reynolds Airport Winston-Salem, N. C.
265	Williamson, Curtis F. Tuskegee, Ala.	Municipal Airport Tuskegee, Ala.
2250	Wilson, C. Hearn 2703 Emogene St. West Lawn Mobile, Ala.	Bates Field Mobile, Ala.
231	Winchester, Thomas P. 502 W. Franklin St. Monroe, N. C.	Municipal Airport Columbia, S. C.
254	Hadley, Bruce A. 249 Carlisle Drive Miami Springs, Fla.	Hollywood Airport Hollywood, Fla.

REGION 3

361	Baldwin, Wallace S. 1904½ Tytus Ave. Middletown, Ohio	Aeronca Aircraft Corp. Middletown Municipal Airport Middletown, Ohio
372	Barron, Ralph M. 11039 College Drive Detroit, Mich.	Nash Kelvinator Corp. Detroit City Airport Detroit, Mich.
371	Beachler, Arthur E. 705 West Nevada Urbana, Ill.	U. of Illinois Institute of Aero., U. of Ill. Airport Savoy, Ill.
314	Becker, Floyd J. 922 Merrifield St., S. E. Grand Rapids, Mich.	Central Air Service Kent County Airport Grand Rapids, Mich.
376	Bigos, Chester J. General Delivery New Lebanon, Ohio	Dahio Airport Dayton, Ohio
36	Bloom, Paul S. Northwestern Aeronautical Corp., Holman Field St. Paul, Minn.	Northwestern Aeronautica Corp., Holman Field St. Paul, Minn.
399	Bloom, Reuben L. Williamson-Johnson Airport Duluth, Minn.	Williamson-Johnson Airport Duluth, Minn.
354	Bowlby, Maurice J. 329 E. North Street Muncie, Ind.	Muncie Aviation Corp. Muncie Airport Muncie, Ind.
380	Brown, Harry V. 1702 Anderson Ave. South Bend, Ind.	Stockert Flying Serv., Inc. Bendix Field South Bend, Ind.
321	Browning, Reed 1506 Wildon Ave. Akron, Ohio	Goodyear Tire & Rubber Co., Inc. Flight Operations Div. Akron, Ohio
353	Clark, William R. 1016 10½ St., S. E. Rochester, Minn.	Gopher Aviation, Inc. Rochester, Minn.
393	Clever, Harry Municipal Airport New Philadelphia, Ohio	Tuscarawas County Aviation, Inc. New Philadelphia, Ohio
343	Cooper, Claude A. 344 S. Sheldon St. Charlotte, Mich.	Cooper & Bosworth Air Service Beach Airport Charlotte, Mich.
391	Crites, Dale B. R #5, Box 938 Waukesha, Wis.	Waukesha, Wis.
369	Crites, Dean G. P. O. Box 3 Manitowoc, Wis.	Manitowoc, Wis.
357	Cummings, Thomas E. 1028—11th St., N. Fargo, N. D.	Dakota Skyways Hector Airport Fargo, N. D.
347	Dailey, George F. 1023 8th Ave., S. St. Cloud, Minn.	E. A. Skroch Flying Serv. Hector Airport Fargo, N. D.
388	Dunleavy, J. B. 15 Lipton Place Stamford, Conn.	Parks Aircraft Sales & Serv East St. Louis, Ill.
279	Ewing, Donald G. 1012 Garden Lane South Bend 21, Ind.	Indiana Air Service, Inc. Bendix Field South Bend, Ind.
35	Fontana, Mario 315 Hecla St. Laurium, Mich.	Ford Airport Iron Mountain, Mich.
381	Ford, Day 1153 Madison Ave. Grand Rapids, Mich	Northern Air Service Kent County Airport Grand Rapids, Mich.
396	Mohr, Fred William Box 552, Airport Albert Lea, Minn.	Airport Albert Lea, Minn.
382	Norman, Clark c/o C. E. Norman Grand Trail	Roscoe Turner Aero. Corp. Municipal Airport Grand Trail
	Robert Kronkright 23651 Garrison St. Dearborn, Mich.	Kristport Airport Farmington, Mich.
362	Pearson, Emmet D. c/o Akron Airways, Inc. Municipal Airport Akron, Ohio	Akron Airways, Inc. Municipal Airport Akron, Ohio
386	Plezia, Walter A. P. O. Box 933 Lima, Ohio	Lima Air Service Municipal Airport Lima, Ohio
350	Poorman, Royal H. Box 96, Station A Canton 5, Ohio	Poorman Aircraft Service Martin Field Canton 5, Ohio
397	Quick, Edward H. Municipal Airport Saginaw, Mich.	Municipal Airport Saginaw, Mich.
349	Riggens, Minor 213 E. First Ave. Monmouth, Ill.	Currey Flying Service Airport Galesburg, Ill.
387	Rinyu, John J. Box 146, Lebanon, Ill.	Cyril Lebert Airport Lebanon, Ill.
385	Rohr, Anthony A. 19991 McCormick St. Dearborn, Mich.	Servair, Inc. Detroit City Airport Detroit, Mich.
384	Schaffer, Leopold V. Charleston Airport, P. O. Box 404 Charleston, Ill.	Charleston Airport Charleston, Ill.
33	Schmidt, Melville J. Cincinnati Aircraft Service Hangars #2 and 4, Lunken Airport Cincinnati, Ohio	Cincinnati Aircraft Service Lunken Airport Cincinnati, Ohio
338	Schmidt, Roy 2729—15th St. Moline, Ill.	Moline Airport Moline, Ill.
383	Schnell, Reinhart O. Dixon Airport Dixon, Ill.	Dixon Airport Dixon, Ill.
346	Schumacher, William F. 1709 West 21st Place Chicago 8, Ill.	Harlem Airport Oak Lawn, Ill.
355	Shadley, Walter W. 2302 North 22nd St. Lafayette, Ind.	Lafayette Aircraft Repair Service Arets Airport Lafayette, Ind.
**	Skroch, E. A. 1529 N. Broadway Fargo, N. D.	Fargo Municipal Airport Hector Field Fargo, N. D.
395	Sorensen, Eldon H. Sevdy-Sorensen Aviation Airport Worthington, Minn.	Sevdy-Sorensen Aviation Airport Worthington, Minn.
367	Souder, Paul W. 587 Garden Road Columbus, Ohio	Jones Flying Service, Inc. 3309 Sullivant Ave. Columbus, Ohio
341	Squires, Henry C. 4419 Richmond Road South Euclid, Ohio	Willoughby Municipal Airport Willoughby, Ohio
394	Stebbins, Gerald C. 3215—31st Ave., S. Minneapolis, Minn.	DePonti Aviation Co., Inc. Weld-Chamberlain Field Minneapolis, Minn.
310	Tabraham, George E. 13214 French Road Detroit 5, Mich.	Detroit Board of Education Detroit City Airport Detroit, Mich.
365	Thomas, Jack D. 217—2nd Ave., W. Dickinson, N. D.	Sax Aviation Company Dickinson, N. D.
313	Thomas, Lincoln G. General Mitchell Field Milwaukee 7, Wis.	General Mitchell Field Milwaukee 7, Wis.
392	Unger, Maurice C. 1923 Emerson Ave. Dayton 6, Ohio	Dayton Airways Vandalia, Ohio
339	Vandre, Bernard G. 1406—8th Ave., N. St. Cloud, Minn.	Van's Air Service St. Cloud, Minn.
390	Waage, Arnold L. 313 Given St. Mankato, Minn.	Mankato Aero Service Mankato, Minn.

* *This information not yet received.*

** *Designation No. not yet assigned.*

Designation No.	Name and Mailing Address	Fixed Base of Operation
356	Worcester, Harold L. New Brighton, Minn.	American Aviation, Inc. New Brighton, Minn.
356	Woychik, Raymond O. 2112 Clark St. Middleton, Wis.	Middleton, Wis. (Madison)
359	Wright, Bruce C. Williston, N. D.	Williston, N. D.
363	Yeaton, Horace E. Parks Metropolitan Airport East St. Louis, Ill.	Parks Aircraft Sales & Serv. Parks Metropolitan Airport East St. Louis, Ill.
377	Zimmer, Herbert J. 6547 Devonshire St. St. Louis, Mo.	Parks Aircraft Sales & Serv. Hoosier Parks Airport Indianapolis, Ind.

REGION 4

447	Allan, Alexander M. 118 S. Poplar St. Sapulpa, Okla.	
479	Altman, Frank L. 3324 East Latimer St. Tulsa 5, Okla.	Spartan Aero Repair Municipal Airport Tulsa, Okla.
445	Arneson, Charles O. Route 2, Box 495 Tallulah, La.	Quebeck, La.
470	Bannister, Sherman E. c/o Canyon Aviation Serv. Canyon, Tex.	Canyon, Tex.
438	Beamen, Wille A. 1102 Clinton St. Cuero, Tex.	*
431	Benson, Charles E. Route 10, Box 307F San Antonio 1, Tex.	*
45	Berry, Gene H. Box 111 Monroe, La.	Delta Airlines, Inc. Bernstein Field Monroe, La.
439	Blackwell, Carl T. P. O. Box 255 Palestine, Tex.	*
450	Blake, Norman L. Broadmoor Hotel 214 N.W. 7th St. Oklahoma City, Okla.	
468	Boyd, Charles J. Route 2, Box 191 Santa Fe, N. M.	Municipal Airport Santa Fe, N. M.
49	Browning, Robert M. P. O. Box 1173 Austin, Tex.	Browning Aerial Service Austin, Tex.
449	Burcham, A. L. Route #3, Box 295 Amarillo, Tex.	Amarillo, Tex.
426	Cantrell, Dennis F. 820 Mitchell St. Conway, Ark.	Municipal Airport Conway, Ark.
433	Collins, Joe E. 1641 So. 11th St. Abilene, Tex.	Abilene Flying Service Abilene, Tex.
457	Crow, Roy Route #3, Box 183A Fort Worth, Tex.	*
471	Davis, Roy T. 1030 East Twiford St. Pampa, Tex.	Pampa, Tex.
467	Dent, Franklin A. 4317 E. 5th St. Tulsa, Okla.	Spartan Aero Repair Tulsa, Okla.
427	Disinger, George C. P. O. Box 781 Jonesboro, Ark.	Jonesboro Flying Service Municipal Airport Jonesboro, Ark.

* *This information not yet received*

Designation No.	Name and Mailing Address	Fixed Base of Operation
469	Dotson, James C. 195 Atlantic St. Shreveport, La.	Shreveport Airpark Shreveport, La.
466	Driver, Julius W. 1317 Elder St. Duncan, Okla.	Halliburton Airport Duncan, Okla.
434	Evans, Joseph D. 3314 N. Harding St. Ft. Worth, Tex.	Globe Aircraft Corp. Ft. Worth, Tex.
424	Fate, William H. Route 2, Box 427E Ft. Worth, Tex.	Aircraft Sales Co. Meacham Field Ft. Worth, Tex.
458	Fiedor, Ludwik F. Box 763-A, Route #1 East Haven Blvd. Houston, Tex.	*
464	Fox, Theodore J. 515 Schatzel St. Corpus Christi, Tex.	
472	Haas, Herbert L. 3420 Harrison St. El Paso, Tex.	Anderson Municipal Airport El Paso, Tex.
452	Henley, James H. Knolle Flying Service Alice, Tex.	Knolle Flying Service Alice, Tex.
451	Holmes, Stuart K. 6411 Georgetown Road Austin, Tex.	Austin Flying Service Municipal Airport Austin, Tex.
412	Kelley, George H. 2411 Langdon St. Dallas, Tex.	*
437	Ketchum, Samuel W. 3453 Penick St. Shreveport, La.	Badgett Aviation Co. Municipal Airport Shreveport, La.
476	King, Klaas K. 108 North 6th St. Lawton, Okla.	Hussher Flying Service Municipal Airport Lawton, Okla.
480	King, Halm C. Garner Field Uvalde, Tex.	Rapid Aero Repair & Mfg. Co. Uvalde, Tex.
460	Kritzer, Shelby M. Box 1377 Amarillo, Tex.	Amarillo, Tex.
459	LaBrucca, Louis P. 812 Columbia, P. O. Box 443 Las Vegas, N. M.	*
428	Lytle, Charles A. Route 2, Box 202B Lancaster, Tex.	*
455	McClure, Cecil F. 4120 Curzon St. Fort Worth 7, Tex.	*
444	McKissick, Robert C. Rich Field, Route #1 Waco, Tex.	Rich Field Waco, Tex.
442	Matthews, Ray Route 3, Box 158 Houston, Tex.	*
475	Mauk, Walter D. Municipal Airport Box 460 Blackwell, Okla.	Northern Oklahoma Flying Service Blackwell Municipal Airp't Blackwell, Okla.
454	Meyer, Kenneth J. Rural Route #3, Box 186 Houston, Tex.	*
453	Miles, William C. 6607 Narcissus St. Houston 12, Tex.	*
416	Millard, Samuel W. 311 N. Booth, Box 638 Dawson, Okla.	Hangar 4, Municipal Airp't Tulsa, Okla.

* *This information not yet received*

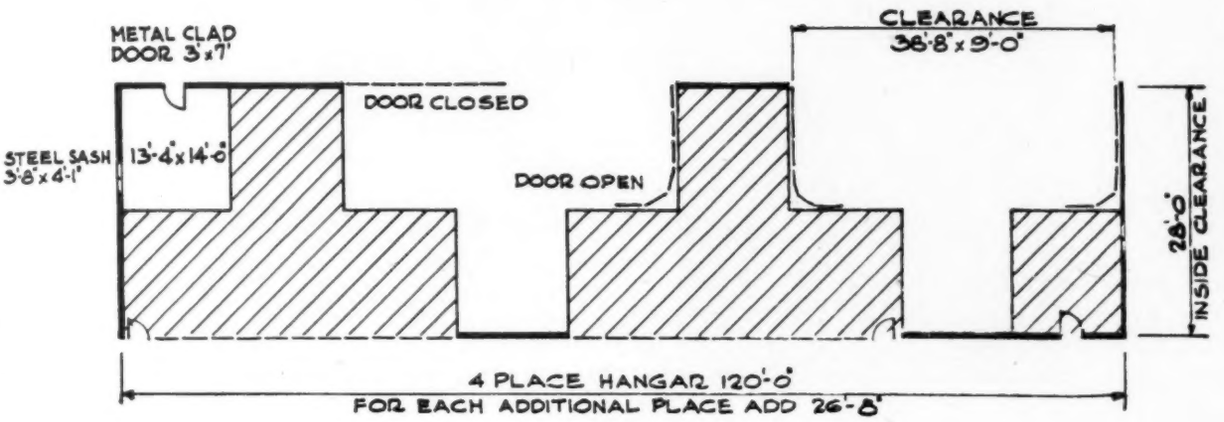
Designation No.	Name and Mailing Address	Fixed Base of Operation
443	Moore, John W. 317 N. Jackson Ave. El Dorado, Ark.	Municipal Airport El Dorado, Ark.
463	Newman, John V. 407 South Michigan St. Roswell, N. M.	Roswell, N. M.
448	Norris, James C. 717 W. 29th St. Pine Bluff, Ark.	Arkansas Aviation Service Grider Field Pine Bluff, Ark.
465	Nowell, Jarvis R. 2707 30th St. Lubbock, Tex.	*
441	Parkman, Francis R. Box 5128 Beacon Hill Station, Tex.	Leon Valley Airport Beacon Hill Station San Antonio, Tex.
422	Phillips, Buell R. P. O. Box 1056 Ft. Smith, Ark.	Ft. Smith Flying Service Ft. Smith, Ark.
435	Roberts, Gordon, K. P. O. Box 230 Kilgore, Tex.	Kilgore Flying Service, Inc Elder Field Kilgore, Tex.
440	Smith, James H. P. O. Box 64 El Reno, Okla.	*
478	Spencer, Paul R. 342 N. Alcazar St. Albuquerque, N. M.	Graham Bell Airport Albuquerque, N. M.
446	Stolzer, William J. 725 Booker St. Little Rock, Ark.	Central Flying Service Adams Field Little Rock, Ark.
474	Surratt, John E. 5912 Ellsworth St. Dallas, Tex.	*
436	Swaim, Paul R. Box 1308 Erwin Newman Airport Houston, Tex.	Erwin Newman Airport Houston, Tex.
432	Tackett, Louis E. 647 E. Moran St. Stamford, Tex.	Stamford Aircraft Repair Stamford, Tex.
430	Taylor, Marion M. c/o Southwest Aircraft Meacham Field Fort Worth 6, Tex.	Southwest Aircraft Meacham Field Fort Worth 6, Tex.
475	Thomas, Daniel O. Municipal Airport Farmington, N. M.	Municipal Airport Farmington, N. M.
410	Thompson, Marion C. Route #2, Box #12 Shreveport, La.	Stovall Airport Shreveport, La.
456	Tibbs, Charles F. Weatherford Airport Weatherford, Tex.	Weatherford Airport Weatherford, Tex.
461	Tolley, Frederick J. 1514 South Gillette St. Tulsa 4, Okla.	Spartan Aero Repair Municipal Airport Tulsa, Okla.
462	Trigg, Lenward R. R.F.D. 4, Box 293A Wichita Falls, Tex.	*
44	Vester, Jesse P. 228 Casa Blanca Ft. Worth, Tex.	Aircraft Sales Co. Meacham Field Ft. Worth, Tex.
481	Whitlock, James D. Route 1, Box 467 Brownsville, Tex.	Border Aircraft Service Brownsville, Tex.
482	Wiles, E. Louis Esson Lane, Route #2 Baton Rouge, La.	Louisiana Aircraft Baton Rouge, La.
477	Wood, Earl D. 903 Fair Ave. San Antonio, Tex.	Bexar County Airport San Antonio, Tex.

* *This information not yet received*

Watch this special section in next month's issue of AIR TRANSPORTATION which will contain the complete list of designated maintenance inspectors for nonscheduled aircraft in Regions 5, 6, 7.

This is a typical AIR TRANSPORTATION service for you. Clip this insert and post it.

LURIA STANDARD HANGAR T·40



SPECIFICATIONS

GENERAL

Hangar is an all steel shop fabricated structure furnished complete with anchor bolts, erection bolts and nuts, sheet metal fasteners and miscellaneous hardware.

Doors consist of prefabricated sections. One hinged leaf on each jamb swings in. Balance of sections which are hung on overhead track with self-adjusting spring hangers are hinged together parting at the center and rolling back inside hangar. One end leaf in each set is provided with a lock. All other sections are locked from the inside with cane bolts.

DESIGN

Live load—30 P.S.F. on horizontal projection ot roof reduced to 22.5 P.S.F. for roof slope of 1 to 4.

Wind load — 20 P.S.F.

DRAWINGS

Foundation plans for average soil conditions, bill of material and complete erection diagram furnished with hangars.

MATERIALS

Frame—fabricated from rolled structural sections.

Roof — 22 gauge corrugated steel sheets, galvanized and bonderized.

Siding — 24 gauge corrugated steel sheets, galvanized and bonderized.

Doors — 18 gauge cold formed steel, bonderized. Provision can be made for fixed glass panel in each leaf if required.

Sash — single unit without glass furnished for each end as indicated. All wall framing is fabricated to accommodate additional standard sash in single or multiple units.

Partitions — various types available but not included.

PAINTING

Structural steel, sash and metal clad doors—one shop coat.

Roofing, siding and hangar doors — one coat baked on.

Specifications of larger units **T·45** *and* **T·54** *available upon request.*

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New Avenues in Aviation

By BRIGADIER GENERAL LAWRENCE J. CARR
Chief of Operations,
Trans Caribbean World Airways
President,
Institute of Air Transportation

SINCE the end of the war a new born industry has expanded the airways of the nation. We who are close to it have difficulty in realizing that it is such a vast and such a necessary enterprise. Without looking at figures we still think of it as a wonderful adventure and as a great opportunity in the field of aviation. Yet when we look at the record and at the figures we realize that we now speak for thousands of people employed by many sound and well financed companies whose planes continue to criss-cross our country flying passengers and cargo never before transported by air. Even more than that, our records indicate that these same men are now crowding out over the oceans to every corner of the world where there are airfields big enough to land their ships.

The majority of the people making up this new industry are veterans trained by our Government in wartime at a cost exceeding $100,000,000. It is still hard to estimate how many have entered this new field, but their motive is an obvious one. As is only natural, these men were not going to toss their training overboard, forget their wartime skills, and leave aviation through the back door. Even if there had been enough jobs available with the so-called scheduled airlines, I am certain that many of these men would have preferred to start out on their own, and chance an opportunity which their American way of life had taught them they could do.

In this short space of a year the terms "charter" and "non-scheduled," inadequate as they are, became familiar to an air-minded nation. Thousands of shippers and passengers found new names in their daily papers offering to serve them in the air. Salesmen began to seek out manufacturers and sell them on the advantages of shipping by air. Businessmen and vacationers alike discovered that there were ways and means to get to where they wanted to go, quickly, safely, and comfortably by air. Far from infringing on the territory of those already serving the American public in the air, this new industry has created new fields and developed new avenues in aviation. It has served the cause of American aviation as it has seldom been served before.

Underneath all the surface activity, a serious threat to the continued development of these air services is evolving. If allowed to continue, this threat will not only harm thousands of individuals whose livelihood depends upon the new industry, but far more dangerously it will set back the clock on the entire aviation world. If proposed regulations of the Civil Aeronautics Board concerning non-scheduled, charter, and fixed-base air operations go into effect, most of the companies now serving the public through this medium will go out of business.

The position of the Institute of Air Transportation was made clear since these proposed regulations were announced.* I believe that the Board, as an interpreter of the law, is as much entitled to its own opinions as the reader or I. If we must take issue at all, the issue should be taken with a law which according to CAB interpretations would close the door on new entries into the field of air transportation.

The present Civil Aeronautics Act of 1938 exempts non-scheduled carriers from economic regulations by amendment of December, 1938, known as Economic Regulations 292.1. However, this amendment made no attempt to define clearly just what non-scheduled operations were. Certainly at the time no one could foresee the situation that prevails today. The law could not, at that time, take into consideration the vast development that was to take place. Today's interpretation of the Board proposes to classify and restrict non-scheduled airlines as non-common carriers. But, previous legal rulings (notably Glose versus Curtiss Wright Flying Service) have held that non-scheduled operations are of the common carrier type.

(Concluded on Page 50)

Flying Ambulance

By **LEE WHITE** *and* **MORGAN SMITH**

USE of the miracle of flight has taken a great stride with the inauguration in Birmingham, Ala., of regular civilian flying ambulance service. There, a hospital ship, probably the first of its kind in the country, stands ready on a moment's notice to fly the sick and injured to any part of the United States or Canada. The speed of modern warfare has again been converted to civilian benefit.

This is a story which really began with the first torn and twisted American casualty of the assault landing in Sicily, flown back to the African mainland in a battered C-47 and brought back almost from the dead to one of the Army's fully equipped general hospitals.

Bringing that story up to date, we can take the case of Kitty Harper, a little tow-haired girl of 4 who swallowed an open safety pin. It is nothing new in modern medicine to perform the wonder of removing an object from a tiny throat. Special instruments have been developed for the use of experts. Therein might have been the tragedy of Kitty Harper were it not for the "Flying Ambulance." The nearest hospital equipped with instruments and trained personnel to remove such an obstruction was 300 miles distant. Speed was essential. Flown as a stretcher patient in Birmingham's winged ship of mercy, Kitty Harper was on the operating table in little more than two hours.

Or take the case of Arthur Jones, a business man who fractured his skull in an automobile accident while on a business trip. He was rushed to a hospital immediately, but he was a thousand miles away from his family. When he regained consciousness, his thoughts were of home. But the doctors had said that Mr. Jones would be hospitalized for at least ten days, perhaps longer: a trip home by train was out of the question for a man in his condition. The journey would be long and arduous. But with the flying ambulance, Jones was home three days after the accident, and with no ill effects. The ride had taken only five hours and twenty minutes. An ambulance met him at the airport, and he was whisked away to the comforts of his home and family.

There is even the case of Mrs. John Phillips, who was stricken with a heart attack and died in Kansas City while en route from relatives in San Francisco to her home in Atlanta. Her body was turned over to a Kansas City funeral home, her family notified. But who would make the arrangements? It would work a terrible hardship on any of them to make the trip to Kansas City. By regular channels, it would require several days before her body could be shipped to her loved ones. Again, there was a use for the flying ambulance. Mrs. Phillips' body was embalmed, and flown to her home town —and within a matter of hours.

These are only three of many and varied types of cases destined to find this flying emergency ship a significant part of modern medicine. Lives will be saved, suffering will be alleviated; yes, and in some instances, even expense itself will be lessened by the use of the flying ambulance.

The plane in Birmingham, owned and operated by a local funeral home,

(*Concluded on Page* 50)

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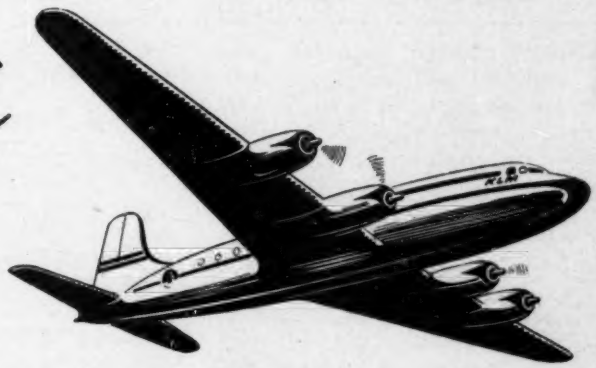

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WEST INDIES DIVISION

AIRDOM

By Richard Malkin

(Trade Mark)

RECORD SMASHER—Lieutenant Francis A. Waterhouse, Jr., beside the Sikorsky R-6A helicopter which he flew a distance of 430 miles in five hours.

HELICOPTER TALK

THOSE benign characters who couldn't see any possible commercial use of the helicopter for another 10 years at least, are walking around with cheeks slightly more rubescent than pink. Rotary wing aircraft have been hitting the headlines at a steady pace, and this spells progress with a capital P.

The Greater Los Angeles area will be the scene of tests on the use of helicopters for collecting and delivering air mail. These will be conducted during July and August by the Army Air Forces in cooperation with the Post Office Department. Similar tests will take place in and around New York during September—something John F. Budd urged a year ago in an address heard by Postmaster General Robert E. Hannegan.

In Los Angeles the tests call for the utilization of a half-dozen Army helicopters designed and constructed by Sikorsky Aircraft. Crews and ground personnel will be manned by personnel of the Air Rescue Service of the Air Transport Command. The tentative schedule calls for four round-trip flights per day via an inland route to Santa Ana, and a similar number via a coastal route to Long Beach.

The inland run will include 20 stops. Total elapsed time is figured at one hour and 52 minutes; this includes an allowance of one minute at each stop for pick-up or delivery. The coastal run will take one hour and 27 minutes for 16 stops. Lockheed Air Terminal is the base of each run.

It is the plan of the postal authorities to provide 12-hour air mail service between any two metropolitan communities. If successful, the helicopter service will be extended to all the key cities of the United States. Credit is given W. Stuart Symington, Assistant Secretary of War for Air, and Gael Sullivan, Second Assistant Postmaster General, for pushing the tests.

According to reports, the air mail tests in New York will be conducted with Navy helicopters. It was pointed out that the 20 tons of air mail entering and leaving LaGuardia Field each day require at least 45 minutes' transportation by truck to and from the General Post Office in midtown Manhattan. Helicopter service would cut this time drastically.

The Post Office Department reports that Sullivan has assigned his aide, Stephen W. O'Donnell, to take a course in helicopter operation at the Bell Aircraft Corporation's Wheatfield, New York, plant. Sullivan states that O'Donnell "will have immediate opportunity to employ in the Postal Service the helicopter training he receives.

Over in Detroit experimental operation of Greyhound air-bus service was scheduled to take place with a helicopter making two demonstration landings to exchange passengers with highway motor coaches. The company has its weather eye cocked for 12-passenger rotary wing aircraft, although it has purchased two four-place Sikorskys for test purposes.

From Toronto, Canada, came word last month that a Bell helicopter equipped with a secret device for detecting minerals in hitherto impenetrable wilds, was being utilized by the Lunberg-Ryan Air Exploration Company's 10-man expedition to the heavy forests of Northern Canada. It was Lawrence D. Bell, president of the aircraft concern, who placed the helicopter and a technical staff at the disposal of the air prospectors. Hans Lundberg, discoverer of mining fields in Europe and America, pointed out that the helicopter will give the men the opportunity to "back up, move to the right or left, or up and down," until the exact spot for necessary readings is reached.

And from Brazil arrived the news that a helicopter flight of 430 miles—a new distance record for this type of craft—was made by First Lieutenant Francis A. Waterhouse, Jr., of St. Petersburg, Florida, who was at the controls of a Sikorsky R-6A. Waterhouse flew from Fortaleza to Sao Luiz in five hours on the nose. The previous mark was held by Colonel Frank Gregory who, in March, 1944, flew a Sikorsky R-4 from the capital to Patterson Field, Ohio, in four hours and 55 minutes—a distance of 387 miles.

Britain is building what is being publicized as "the world's biggest helicopter"—the *Spraying Mantis*—which is expected to be the nemesis of all sorts of British bugs. Built to specifications advanced by Pest Control, Ltd., the machine will have two rotors built on "spread-eagled forearms" with a span of 60 feet. The *Spraying Mantis* will carry a four-ton load, and it will be the killer-diller of farm vandals. Hundred-foot long booms, fitted with sprays, will do the exterminating.

The United States Department of Commerce has come through with some highly interesting information on the German *Kolibri* (F1-282), which, according to Bertram Kelley and Hugh J. Mulvey, investigators for the Technical Industrial Intelligence Branch, is able to climb 300 feet per minute with a gross weight of 2,200 pounds. Invented by Anton Flettner, the one- or two-place craft was developed from other German helicopter models. Twenty-two such machines were built, and if the war had lasted longer than it did the *Kolibri* would have gone into full-scale production.

AIR-PORTATION NEWS

[REG. U. S. PAT. OFF.]

UAL Would Use 'Copters' To Link Chicago, Nearby Towns

The use of helicopters to link suburban communities with a metropolitan airport yesterday has been proposed by United Air Lines in an application filed with the Civil Aeronautics Board. This petition is the first of its kind to be filed by any airline.

United has asked authority to establish five helicopter routes between the Chicago Municipal Airport, downtown Chicago, the city's suburbs, and nearby towns. The routes would serve 32 communities having a total population, exclusive of Chicago, of almost one million. They would reach as far as Racine on the north, Elgin and Joliet to the west, and Gary to the southeast.

The airline proposes to have the helicopters carry air mail, connecting directly with incoming and outgoing airliner flights of all 10 air transport companies serving Chicago. By this means, air mail letters moving between the communities served by the helicopters and cities throughout the United States would be greatly expedited.

W. A. Patterson, United's president, indicated that if the project should prove successful, such helicopter service might be extended to passengers, express and

freight, in addition to mail, and that similar helicopter routes might be established in other key cities along the airline's system. He said that United may possibly buy as many as five helicopters, each capable of carrying 1,500 pounds of air mail at about 75 miles an hour, with which to start service in the event the company's application is granted.

September 3 is New Date For Filing Remarks on Proposed Revisions of Section 292.1

The Civil Aeronautics Board announced late last month that it would extend the time for the filing of comments on its pending proposal to revise Section 292.1 of the Economic Regulations to September 3, 1946. The Board also stated that it would arrange for an oral presentation of views after the time for filing the comments has expired.

Existing regulation, as amended on June 5, 1946, requires all non-scheduled operators to file a registration statement and a financial and traffic report with the Board. Regarding carriers already in business, this statement was due on or before July 15, and operators starting business after that date were required to file 30 days after the inauguration of the service. These statements may now be filed on or before September 3, 1946, or 30 days after the institution of the air service.

The proposed regulations, on which the date of comment is now extended, would place additional requirements on non-certificated operators, such as filing tariffs showing rates and fares charged, filing periodic reports, and limiting the number of flights that can be made between the same pair of points in order to maintain a non-scheduled status.

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LONDON LIVERPOOL GLASGOW

(*Continued from Page 5*)

The **Colombian Government** has been requested by the Medellin Chamber of Commerce and Rotary Club to embargo the exportation of 40,000 orchid plants already purchased by orchid growers in the United States. Reason: the fear of a ruined business brought about by the rapid depletion of the stock by exportation.

American air bases at San Antonio de Los Banos and San Julian, Cuba, have been turned over to the **Cuban Government.**

The State Planning Board of Massachusetts has predicted that the **Boston Airport** will handle 900,000 domestic passengers next year and three million by 1956. It also foresaw 45,000 transatlantic passengers in 1947 and 190,000 by 1956.

Dr. John H. Frederick, for the past eight years professor of transportation at the University of Texas, has accepted appointment as professor of transportation and foreign trade in the College of Business and Public Administration at the University of Maryland. He will also be concerned with the development of work in the social and economic aspects of air transportation in connection with the Glenn L. Martin Institute of Aeronautical Research recently established at the university.

Vice Admiral Emory S. Land, speaking at the George Westinghouse Centennial Forum in Pittsburgh, proposed the immediate organization of a committee to work toward the removal of barriers to persons and property crossing international boundaries. He named his proposal, the "freedom of travel."

This fall **Peruvian International Airways** plans to open a joint American-Canadian-Peruvian airline to provide direct-route air communications between Montreal and Lima, with proposed stops at New York, Washington, New Orleans, and Panama.

L. H. Hampel, manager of the Economic Research Department of United Air Lines, and **L. C. Tombs,** of Canada, executive secretary of the International Air Transport Association, are representing the International Chamber of Commerce at PICAO.

W. T. Piper, president of the **Piper Aircraft Corporation,** has announced the completion of the 200,000th Piper *Cub*. No other aircraft manufacturer has built so many civilian-type airplanes in the United States.

More than 1,000 skilled civilian technicians will soon replace Army personnel operating the weather and communications services of the Air Transport Command over the Atlantic. They will be hired by **American Overseas, Pan American,** and **TWA.**

National Skyway Freight Corporation revealed 16 additional contract flights as well as charters for four flights to carry service personnel before the month of May was half over. One contract called for the air freighting of four planeloads of gardenias to Eastern markets; another engaged the airline for the transportation of 12 planeloads of assorted flowers to cities in the Atlantic region.

Edo Aircraft Corporation has published recently a booklet entitled *Air Harbors are Ready Made Airports,* which points out the suitability for floatplane bases of water areas throughout the country, and emphasizes the economy and speed with which such bases, as compared to airports, can be installed and operated.

Britain has developed the first jet-propelled flying wing fighter plane. Known as the de Havilland *Swallow,* it is expected eventually to reach a top speed of 675 miles an hour through use of the *Ghost* jet propulsion engine. At present it is powered by a *Goblin II.*

An indoor Air Fair, scheduled by the **Aviation Council of Metropolitan St. Louis, Inc.,** a newly formed non-profit organization of civic groups, chambers of commerce, and aviation groups, is scheduled for September 4-12.

Contracts have been signed by **Braniff Airways** and the City of Dallas for the airline's use of the Dallas Lockheed Modification Center at Love Field.

Allison has announced a production program for 1946-47 which includes use of all its war-operated plants, including the two million square-foot Maywood plant owned by the Reconstruction Finance Corporation. Approximately 6,000 persons will be employed at the peak of production.

The **Madison Civil Air Corps** will hold its fifth annual convention at Madison, Wisconsin, on September 7 and 8. Some 400 planes are expected to fly into the city to attend the event.

Business and education leaders have combined with Government officials to organize **Air Affairs, Inc.,** the world's first international project to study and predict the social effects of aviation. Chairman of the Board of Trustees is Assistant Secretary of Commerce William A. M. Burden. William D. Pardridge is president and editor of the journal.

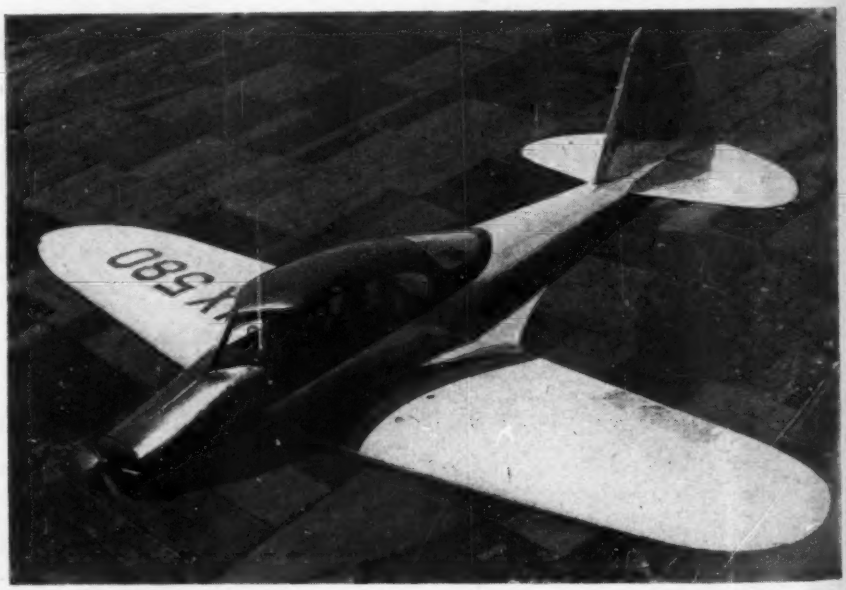
Brigadier General Lawrence C. Craigie, appearing before a Senate Interstate Commerce subcommittee, urged the spending of $250,000,000 annually for research and development if the United States expects to maintain its wartime air supremacy. He declared that the AAF desires to build some wind tunnels in which speeds ranging up to 7,600 miles an hour could be tested.

Argentine aircraft have begun scheduled flights to England as well as to Chile. This is the first time that Government-owned planes have operated outside Argentina's borders.

New York and Albany have been once more connected by **American Airlines** with three flights daily. This service had been suspended for four years.

In celebrating the seventeenth anniversary of the first direct air mail flight between Peru and the United States, **Panagra** announced that 1,962,232 pounds of mail had been carried on its planes since 1929. Last year 362,867 pounds were flown, as compared with the 1929 figure of 2,002 pounds.

PIPER AIRCRAFT'S PA-6 SKYSEDAN



The four-place PA-6 Skysedan now undergoing tests at Piper Aircraft's plant at Lock Haven, Pennsylvania. The all-metal 160 mph low-wing monoplane is scheduled to go into production next year. Powered with a 165 horsepower Continental six-cylinder air-cooled engine, equipped with electric starter and generator the craft was designed primarily as a family plane and all-purpose ship for the charter operator. Outstanding feature is the turret-top cabin roof which provides 360-degree vision. The Skysedan cruises at 140 mph. At normal cruising speed with 40 gallons of gas, the range is 620 miles. Gross weight is 2,400 pounds.

Expreso Aereo to Buy Cubana as Result Of Agreement with PAA

Negotiations for the sale of Compania Cubana de Aviacion, S. A., to Expreso Aereo Interamericano, S. A., have been concluded, according to an announcement by Wilbur Morrison, vice president in charge of the Latin American Division of Pan American Division of Pan American Airways, which owns 52 percent of the Cubana stock, and Donald W. Stewart, vice president of Expreso.

According to Stewart, upon completion of the merger, Expreso will offer a complete intra-Cuba air network, with passenger seat-miles increased from the current capacity of 20,000,000 a year to 50,000,000. It was revealed that Pan American will receive $21 a share for the 52,000 shares to be acquired. Holders of the remaining 48,000 shares will receive a similar offer in the event they do not wish to accept an exchange for Expreso stock on a basis to be determined by the market value of the latter on consummation of the transaction.

"Included in the purchase," Stewart declared, "will be four DC-3 airplanes and two Lockheed *Electras*, airport rights in all cities in which Expreso is not already operating, and a complete engine overhaul shop. The agreement also contemplates the operation by Expreso of Pan American's Rancho Boyeros Airport in Havana, and the airport in Camaguey, while Cubana will cancel its lease on Pan American's Santiago Airport as soon as Expreso's new field in that city is ready for use.

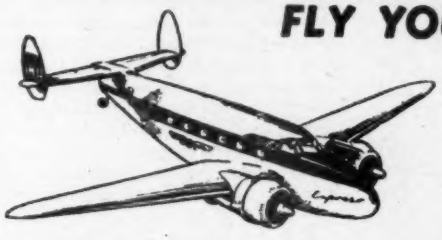
"Additionally, Expreso will become Pan American's general agent in all Cuban cities, with the exception of Havana, where it will act as sub-agent, while Pan American will act as Expreso's general agent in the United States, with the exception of Miami, where it will serve as sub-agent."

EAL Cuts Air Cargo Rate On New York-Houston Run

A newly reduced air freight rate of $16.30 per 100 pounds on general commodities in 3,000-pound lots has been put into effect by Eastern Air Lines between New York City and Houston, Texas, according to an announcement made by Edward Skinner, manager of the Air Cargo Department for the airline. Through the new arrangement, a 3,000-pound shipment of ladies' ready-to-wear from the New York clothing center may now be loaded aboard an EAL *Cargoliner* at Newark Airport in the evening, and put on sale in the department stores of Houston the next afternoon, at a total freight cost of only $489. The same shipment sent by Air Express, which handles pickup and delivery, would cost $1,381.50.

Panagra Guest Houses

Two guest houses are operated by Panagra at points where overnight stops are required under present schedules for the convenience of passengers flying along the west coast of South America. One of the guest houses is at Santa Cruz, Bolivia, and another at Antofagasta, Chile.



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HANGAR FLYING

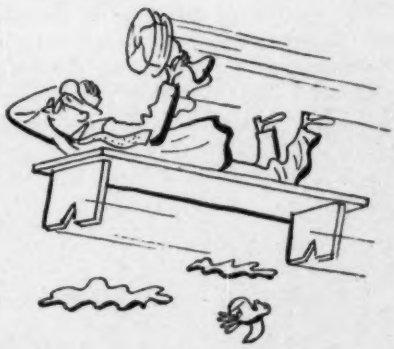
LOCKHEED

The Air-Going Bench

A weird flying test bench, with a name that sounds as if it belonged to an electric fan, was spawned by Lockheed engineers when they were figuring out the engine setup for the *Constellation*.

The test rig was a Lockheed Ventura with two *Constellation* power plants, and almost immediately it was nicknamed the Ventellation.

They used the Ventellation to check the findings coaxed out of conventional, earthbound wind tunnels and test benches. This plane showed them that their proposed arrangement (engine, cowling and accessories in one "power egg") made for easy maintenance: an engine can be changed in less than half an hour.



It also pointed up the economy and double safety of oversize engines. As every well-behaved engineer knows, small engines, running all-out, use up more fuel and get more wear and tear than large engines cruising at loafing power.

Result: The *Constellation* has 4000 reserve horsepower and can climb on any two of its four engines.

It's this kind of serious funny-business at Lockheed that makes better planes worth talking about.

L to L for L

©1946, Lockheed Aircraft Corp., Burbank, Calif.

AIR FRANCE

is in the Sky Again

THE lights have gone on again in Paris, city of light, and La Belle France is stretching out her arms to the world.

There are again merry voices in the Bois de Boulogne as children frolic on its blanket of green and there is the lilt of laughter in the sidewalk cafés. The tread of hobnailed feet is gone from the Champs Elysées and again smartly dressed men and women are strolling along the boulevards. Taxicabs are darting in and out of the streets, tooting their funny little horns and along the Seine the bookstalls are open.

Paris—the new Paris—has lost none of its old charm, but there has been added the streamlined touch of modern business and industry. Released from the bonds of war, France has been quick to revive her throttled industry, remove the barriers that have blocked her avenues of trade, and reestablish herself as a center of business, as well as a hub of fashion. Again fashion designers, stylists and affiliated artists are knocking at her gates. And, Paris, capital of France, has become one of the great air centers of the world.

The *Comets* of Air France, pioneer international airway, are flashing across the Atlantic twice weekly on regularly scheduled flights and connections are being made at the French capital for Oslo, Copenhagen, Amsterdam, Stockholm, London, Lisbon, Geneva, Zurich and points in South America, Asia and Africa. Later it is expected that Air France will operate its transatlantic service from Chicago, Montreal, Boston and Washington under the terms of an agreement between the French and American Governments. A foreign carrier permit has already been issued by the Civil Aeronautics Board for these routes.

Twice weekly service will be increased to daily service in both directions in the near future, it was reported at the offices of the French National Airlines. At the present time eastbound planes are leaving New York every Tuesday and Friday, and westbound planes are departing from Paris every Monday and Thursday.

French cuisine and wines of French vintage are being served on the *Comets* of Air France and the service is by French hostesses, who have learned to speak English and are especially trained for this work. The flight crews are French, Canadian and American. All are veterans of the transatlantic service.

On board the *Comets* are French magazines, and flight logs are provided at intervals.

The flight to Paris is 19 hours with stops at Gander, Newfoundland, and Shannon, Eire. The first *Comet* to fly to Paris on a regularly scheduled run made the trip in 15½ hours without stopping at Shannon, a new record for DC-4 equipment.

AFTER THE JOB—Leaving one of Air France's four-motored Skymasters after the christening are (left to right) C. V. Jones, Douglas Aircraft; Major Robert Boname, French Air Mission; Dorothy Lamour, Hollywood motion picture star; A. Manziarly, French Consul General, Los Angeles; and P. Pery and A. Sarako, both of Air France.

Hildred Announces 7 Appointments to IATA

Seven appointments to the Secretariat of International Air Transport Association have been announced by Director General Sir William P. Hildred. The new officials, nationals of Czechoslovakia, South Africa, the United Kingdom and the United States, have already begun work in the IATA headquarters at Montreal and in branch offices at New York, Cairo, and Rio de Janeiro. The new appointments are:

S. Ralph Cohen, Elizabeth, New Jersey, public relations officer. He is formerly managing editor of *National Aeronautics Magazine*, and has been active in the work of the Federation Aeronautique Internationale and the Interamerican Escadrille. He will make his headquarters at Montreal.

E. S. Pefanis, Pretoria, Union of South Africa, secretary of the Middle East branch office at Cairo, and secretary of the Middle East Traffic Conference. Pefanis was formerly a station manager for British Overseas Airways Corporation at various African and Middle Eastern points, and served with Wilson Airways and Imperial Airways.

C. E. Gwynne-Harrison, United Kingdom secretary of the South American branch office at Rio de Janeiro, and secretary of the Western Traffic Conference. He was controller of the permit division of the United Kingdom Treasury Delegation at Washington, D. C.

Rudolph Feick, New York City, secretary of the North Atlantic branch office at New York, and secretary of the North Atlantic Traffic Conference. Feick was an official of the prewar Transatlantic Passenger Conference at New York.

Stanislaw Krejcik, Prague, Czechoslovakia, assistant secretary of the Technical Committee, with headquarters at Montreal. A squadron leader of the Czechoslovak Air Force attached to the RAF during the war, Krejcik was a member of the Czechoslovak delegation to the Chicago International Civil Aviation Conference in 1944, and has been deputy chief of the planning section in the Department of Civil Aviation of the Czech Ministry of Transport.

Eric H. Tucker, Hooley, Coulsdon, Surrey, England, assistant to the secretary of the Technical Committee at Montreal. He has been operations superintendent for the British Overseas Airways Corporation India-Burma Region, and has also served that line in Europe, Newfoundland, and the United States.

Charles N. Biondi, Jr., Arlington, Virginia, administrative assistant to the secretary of IATA at Montreal. Biondi has been air transportation officer for the United States Foreign Economic Administration in Brazil and chief of the transport division of the FEA Indian Mission at Calcutta.

Six, West Honored

Robert F. Six, president of Continental Air Lines, and a lieutenant colonel in the Air Transport Command during the war, was presented recently with the Army Commendation Ribbon in recognition of his services as base operations officer at Morrison Field, West Palm Beach, Florida. At the same time, Clarence C. West, Jr., vice president of the Denver airline, and former colonel in the ATC, received the Legion of Merit for his work in organizing and administrating the ATC mission "which carried 25,000 military personnel per month to overseas ports."

LEGAL NOTES on Air Transportation

By GEORGE BOOCHEVER

Chairman of the Legal Committee and General Counsel to the Aviation Section, New York Board of Trade

THE United States Supreme Court, in U. S. v. Causby, decided May 27, 1946 (66 S. Ct. 1062), handed down a decision, in a case of first impression, involving the problem whether the respondents' property was taken, within the meaning of the Fifth Amendment, by frequent and regular flights of Army and Navy aircraft over respondents' land, at low altitudes.

The United States Court of Claims held that there was a taking and entered judgment for respondents, one judge dissenting (60 F. Supp. 751). The case came to the Supreme Court on a petition for a writ of certiorari which was granted because of the importance of the question presented.

The present action was instituted by respondents Causby and wife, against the United States, to recover for the alleged taking by defendant of plaintiffs' home and chicken farm which was adjacent to the municipal airport at Greensboro, North Carolina, which was leased to the United States for a term of one year from June 1, 1942, with renewals until June 30, 1946 or six months after the end of the national emergency, whichever is the earlier.

The airport's northwest-southeast runway came to within 2,275 feet of the house. The path of the glide to this runway passes directly over the property; the 30-to-1 safe glide angle approved by the Civil Aeronautics Authority passes over the property at 83 feet which is 67 feet above the house, 63 feet above the barn and 18 feet above the highest tree.

The airport was used by various United States bombers, transports, and fighters. Noise and glare caused by the planes resulted in the destruction of the use of the property as a commercial chicken farm, greatly inconvenienced the occupants of the house, and depreciated the value of the property. The Court of Claims, on the basis of these facts, held that the United States had taken an easement over the property on June 1, 1942 and that the value of the property destroyed and the easement taken was $2,000.

The United States took the position that under the Air Commerce Act of 1926, as amended by the Civil Aeronautics Act of 1938, when flights are made within the navigable airspace without physical invasion of the property of the landowners, there has been no taking of property and that no compensable damage was shown under the Fifth Amendment. The Supreme Court emphatically disposed of the ancient doctrine of the common law that ownership of the land extended to the periphery of the universe, saying, "This doctrine has no place in the modern world."

Despite this general principle the court held that the use of the airspace, to the owners' loss, constituted a taking compensable under the Fifth Amendment. It was held, in that connection, that the fact that the path of glide taken by the planes was that approved by the Civil Aeronautics Authority did not change the result, since it came within the minimum of 500 feet during the day and 1,000 feet at night for air carriers, and from 300 to 1,000 feet for other aircraft, depending on the type of plane and the character of the terrain.

(*Concluded on Page 50*)

AIR CARGO INSURANCE PROTECTION
Anywhere in the World

PROVIDENCE WASHINGTON INSURANCE COMPANY
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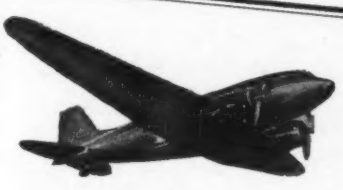

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IT'S AN *Air* WORLD

[REG. U. S. PAT. OFF.]

By L. A. GOLDSMITH, *Economic Analyst,* AIR TRANSPORTATION

NOW comes the dawn of the Children's Hour for airlines equipment. Catering to the comfort of child customers is the latest wrinkle, and a very good one at that! With the children becoming air-minded from babyhood on, the next generation is already sold on air travel. What could be better for creating future potential prospects than to begin with the pre-kindergarten age. The pupils of nursery school grade are excellent material for breaking down possible future sales resistance to air travel and transportation.

Even the babies in arms come in for special attention with the advent of the "sky cradle." American Airlines has installed two of these cradles as standard equipment in every one of their DC-4s. These flying baby bassinets are carefully stocked with everything required for the infant's comfort, plus a zippered safety belt to be sure that the young passenger stays put. The cradles were designed by the wife of one of the airline's executives. They are constructed of light weight aluminum tubing, plastic, and waterproof webbing. They are three feet long, and are suspended from the hat rack forward of the front seats at either side of the cabin aisle by a strong aluminum tube. What a boon for the mothers of young babies! Who would travel any other way with such provisions for comfort and relexation on the part of mothers and children. When babies are booked as passengers, the front seats are reserved for the mothers, and the "sky cradles" are installed. The babies are comfortable and contented, and the mothers have easy access to the youngsters. These portable cradles are strong enough to hold a 35-pound child, which is the approximate weight of an average two-year old. On reaching the advanced age of two, the child becomes a full-fledged passenger. Full fares are then charged, and the two-year olds are allotted their own seats without benefit of cradle comforts.

Airborne Kiddies!

The Flying Nursery made its debut on a Latin American Airways *Commando,* when the wives and children of various executives of the newly established airline took off for Guayaquil, Ecuador, early in July. When they boarded the plane at Newark Airport, a children's traveling "paradise," completely equipped with toys, swings, and a sandbox, was revealed to the 11 delighted youngsters who were making the journey. These children were not just traveling for pleasure. Accompanied by their mothers they were enroute to live in Ecuador rejoining their fathers, who had preceded them some three months earlier. The men had gone there to handle the serious business of inaugurating, establishing, and developing a commercial airline under a concession granted to Latin American Airways by the Government of Ecuador.

PLAYTIME IN THE SKY — Maybe the young lady on that swing would rather be in the sandbox, but all the other kids seem to be quite content. This scene took place aboard a Latin American Airways plane bound from Newark to Ecuador.

The newly formed airline is, in effect, Ecuador's new national airline. It might be said to take the place of the former German airline, SEDTA, which was liquidated during the war. Permission was granted to LAA to start operations in April and to operate between the principal cities of Ecuador, using already existing airfields, as well as proposed new ones and other facilities. The Ecuadorean Government will pay for whatever construction is necessary, and this will then become Government property. LAA plans to transport passengers, mail, and freight.

Services of the new airline actually commenced on April 20 with the President of Ecuador, and his Cabinet, and members of the press as guests on the initial flight. Regular flights were opened May 6, when they began the servicing of six main cities. The Government was so impressed with the initial performance of the airline that by special decree the airline's concession was extended from 10 to 20 years. In addition the line was granted other privileges. Within one week LAA found that its estimate of possible passenger and cargo traffic had been much too low, and a tremendous backlog was immediately created. Plans for additional flight equipment were immediately put into effect to cope with the demand, and operations are increasing in all directions.

Ecuador is especially fitted for air transportation, as much of the terrain, particularly in mountainous areas, has been inaccessible or unsatisfactory for railroad or highway construction.

One of the initial operations now being developed by LAA is the dropping of cargo by "baseball" parachute in a number of hitherto inaccessible areas.* This new non-oscillating parachute is manufactured by General Textile Mills of New York, and descends in a straight line without oscillation and with a minimum of sidewise deviation.

Colonel Lucius O. Rucker, Jr., and Major Fred V. Cole of General Textile Mills are now in Ecuador, cooperating with the airline in order to expand the possibilities of the 'chute.

* * * *

SALESMEN sell and fly airplanes both at home and abroad with the Flying Red Horse insignia painted on the wings of the fleet of aircraft owned and operated by the Socony Vacuum Oil Company. Yes, we said *fleet*—not just one or two planes, but a fleet of them, all set for a selling job with flying equipment, and doing the job well.

Warren L. Baker, manager of the Aviation Department of Socony-Vacuum Oil Company, asserts that the company has only made a modest beginning with the present number of planes. There are nine aircraft used at points throughout the United States and an additional few at headquarters. As time goes on a larger fleet will be assembled; additional planes are on order to complete the needs of the moment. Further planes will be added as the necessity arises.

Flying Salesmen

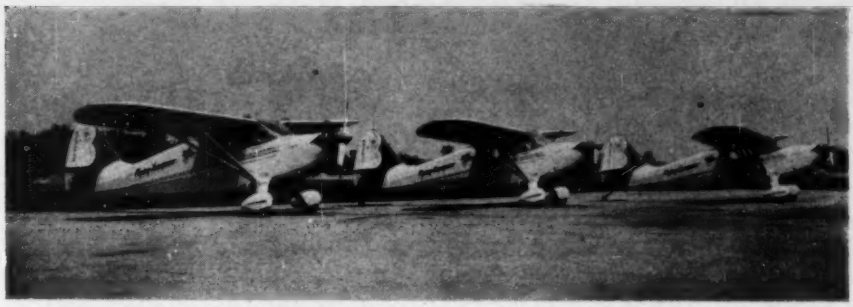
Besides the home fleet, the company also possesses an international sales squadron of flying planes, consisting of C-47s, Beechcrafts, and Taylorcrafts, which operate in foreign countries. The planes in use in this country are Fairchilds, Beechcrafts, Cessnas, and Stinsons.

The men who qualify as sales repre-

* See February, 1946 issue of AIR TRANSPORTATION.

sentatives for Socony Vacuum, must have what it takes to be not only a pilot, but also with many additional all-round skills, such as a knowledge of aircraft mechanics as well as the know-how of the problems which may confront the base operator of an airport or the dealer. The company practically requires its flying salesmen to be "sales engineers"—much more than just salesmen. These Socony Vacuum pilot-sales engineers must have a valid civil airman's certificate with ratings; they must be able to demonstrate their ability to handle whatever plane may be assigned to them.

There are two divisions of the Socony Vacuum flying-selling job. One phase consists of the airport development program. This plan is designed for communities where airports do not exist today or where the existing facilities are inadequate. In such case the pilot salesman's function is to get in touch with State aviation committees and bureaus and to contact the CAA district administrators throughout the country. The salesman is then in a position to know what the situation is and to make suggestions when required or desired. This program is expected to dovetail with the CAA national airport program for some 3,000 additional airports.

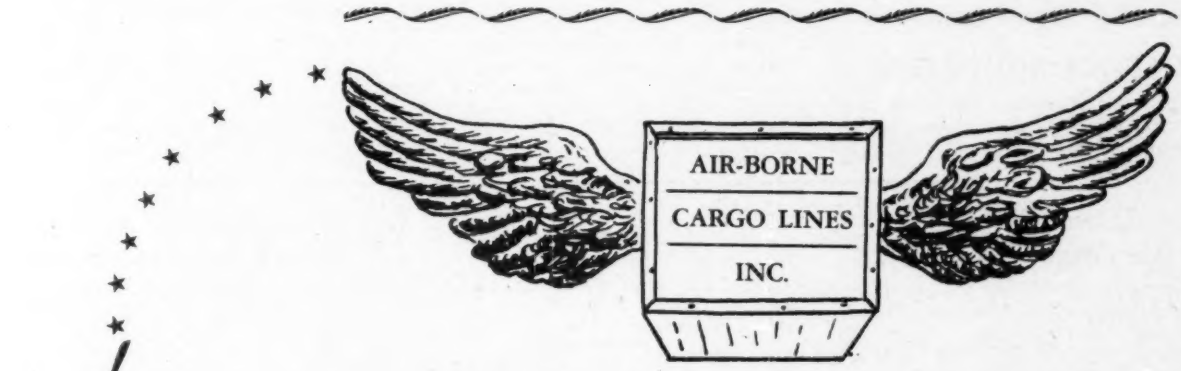


READY FOR THE JOB—Stinson Voyager 150s in the service of the Socony-Vacuum.

The second phase of the selling job is to visit and cooperate with the dealers at airports now in operation. At some of the smaller fields the dealers may also be owners or part-owners of the airport. At others they may be those who have obtained the concessions to sell fuels, lubricants, and some accessories. There may be one or many such dealers at the larger airports.

There is another angle to this two-phase selling campaign. The pilot-salesman serves in yet another capacity. They are trained by the company to provide a service for the dealers which actually counsels on basic and profitable business procedures. Such dealers may be well equipped from a technical standpoint, but they may not have much and in some cases very little, business experience. Here is where Socony Vacuum services score highly. The "sales engineers" step in as an adjunct to sales service, giving the dealers the benefit of experienced know-how on just how to handle his investment, either with an airport or a dealer's concession to the best advantage for his time, efforts and capital investment. The salesmen with the cumulative knowledge acquired by the company's all-over experience can give the dealer or airport owner, ideas and information on when to go slow, when to expand, or how and when to plan for expansion.

The combination of selling and service constitutes a big job, and that requires not only skill, but prompt action in many cases. That's why the plane comes in as an indispensable item.



Announcement IS MADE OF THE CHANGE IN NAME OF HOOSIER AIR FREIGHT CORPORATION TO

AIR-BORNE CARGO LINES, INC.

and that it will henceforth operate its fleet of DC-3 SKYTRAINS *as*

AIR-BORNE CARGO LINES

August 6, 1946

J. E. ROGERS, *President*

[REG. U. S. PAT. OFF.]

AMERICAN AIR EXPRESS

American Air Express, during the month of June, showed a gross revenue increase of 90.9 percent over the month of May, which was the cargo airline's full month of operation. Operating DC-3s, AAE flew 112,777 ton-miles during June as compared with 64,800 during the month of May.

AVIATION CORPORATION

The Aviation Corporation announced that net income for the six months ended May 31, 1946, after all charges including Federal taxes, amounted to $12,723,233, equal after preferred dividends to $2.09 per share on the 5,938,334 common shares then outstanding.

Net income for the six months includes extraordinary profits of $12,720,000, after taxes, on sale of 211,000 shares of American Airlines, Inc., and $350,000, representing estimate of Federal income and excess profits tax refund resulting from "carry-back" provisions of the Internal Revenue Code. Net income for the first six months of 1945 amounted to $1,593,260, equal to 27 cents per common share. According to the corporation, substantial reduction in military business, shortages of essential materials, and prolonged labor difficulties reduced net sales from $19,814,423 in the first half of 1945 to $1,982,552 in the corresponding period of the current fiscal year.

CHICAGO & SOUTHERN

Chicago and Southern Air Lines flew 81 percent more revenue passenger-miles during the first six months of 1946 than it did during the same period of 1945. This involved carrying 102 percent more revenue passengers.

For the month of June, 1946, there was an increase of 64 percent in the number of revenue passengers carried as compared with June, 1945. This is the result of carrying 28,300 passengers in June, 1946, as compared with 17,231 passengers in June, 1945. Revenue passenger-miles for June, 1946, were 11,762,500 as compared with 8,146,103 for June, 1945.

COLONIAL

Passenger travel for the first six months of 1946 was 89.7 percent higher than the corresponding period of 1945 and the passengers carried in June established new record highs for the third successive month. A total of 66,030 passengers flew 19,964,737 passenger revenue-miles in the first six months of this year. The passenger revenue-miles were 84.8 percent higher than for the same period a year ago. Mail and express flown also showed substantial increases for the first half of 1946. Increases of 48.1 percent and 12.9 percent are shown in 94,862,734 mail pound-miles and 38,856,642 express pound-miles flown in the first six months.

In June of this year 15,523 passengers flew a total of 4,667,516 revenue-miles, a 20 percent increase in passengers carried and a 19.8 percent increase in passenger revenue-miles over the preceding month. These figures showed increases of 84.4 percent and 80.3% percent over June, 1945, respectively. Mail pound-miles flown in June were 17,138,734, an increase of 71.5 percent over June, 1945.

METEOR

During the initial flight operating period, May 4, 1946, to June 30, 1946, Meteor Air Transport flew 62,824 airplane miles. Pounds of revenue cargo carried were 439,246; revenue pound-miles, 255,794,634; revenue passengers, 165, and revenue passenger-miles, 132,320.

NORTHEAST

Northeast Airlines' passenger totals for the month of June exceeded those of June, 1945, by 169 percent. The unofficial June total of 48,010 marks a new high in Northeast's 12-year history and betters May's totals by 55 percent.

TRANS CARIBBEAN

Trans Caribbean Air Cargo Lines, during the 60-day period, April 27 to July 27, 1946, flew 89,708,000 pound-miles of revenue cargo and 2,822,000 revenue passenger-miles. These figures were released in answer to a questionnaire from the Civil Aeronautics Board by O. Roy Chalk, president of the company.

UNITED

United Air Lines has shown estimated gains of 84 percent in revenue passenger-miles and 48 percent in revenue airplane-miles for the first half of 1946, as compared with the same period a year ago. According to Harold Crary, United's vice-president, traffic and sales, the company's planes flew approximately 459,756,400 revenue passenger-miles in the six months for an all-time record, as against 250,254,500 last year. Revenue airplane miles totaled 25,371,700 as against 17,164,400 a year ago.

During June alone, United flew approximately 103,540,500 revenue passenger-miles, an increase of 107 percent over the same month a year ago. Revenue airplane-miles for the month were 4,636,700, up 47 percent from June, 1945.

National, Delta Leap Into Air Cargo Field

Further proving that the business of air cargo is a reality to be reckoned with, announcement has been made that both National Airlines and Delta Air Lines are planning to enter this field.

NAL revealed that it has created a separate air cargo division with O. M. Foxworth, Jr., at its head. The airline's Florida-New York route has given rise to speculation that it will go heavily into the transportation of perishable fruits and vegetables. Up to this writing, no additional plans were reported by the company.

According to DAL, its cargo rates would be approximately 60 percent cheaper than existing air express costs. Cooperating with local trucking companies, Delta would offer plane-to-plane service regardless as to whether the shipper is located in a community served by the airline or not. Said Paul W. Pate, air cargo manager:

"Special all-freight ships will be operated over the Delta system whenever a shipment or combination of shipments is too heavy or too large for the cargo bins of our passenger liners. Streamlined tariffs have been designed which anyone can understand after five minutes of instructions. Special air bills will replace old-fashioned bills of lading and way bills."

For air freight shipments weighing up to 499 pounds, 26.5 cents per ton-mile will be charged; between 500 and 99 pounds, 25.5 cents; 1,000 to 1,999 pounds, 24.5 cents; 2,000 to 2,999 pounds, 23 cents; and 3,000 pounds or over, 21 cents.

Hoosier Air Freight is Now Air-Borne Cargo Lines, Inc.

Air-Borne Cargo Lines, Inc., is the new name of Hoosier Air Freight Corporation, according to an announcement by J. E. Rogers, president. In a special letter to stockholders of the corporation, Rogers explained that "during the course of developing our air freight service we have found that the average shipper has interpreted our corporate name to indicate a Midwest operation, localizing our effort to a point that we have been obliged to explain on numerous occasions that we are not an Indiana corporation and that we are qualified to transport cargo to any place in the continental United States."

"These inquiries," he continued, "have brought prominently to our minds the necessity for a more universal corporate name, conveying an overall airline freight operation, and after considerable study we finally decided upon Air-Borne Cargo Lines, Inc."

AOA Sets One Air Express Rate Between U. S., Europe

A single air express rate between the United States and Europe over American Overseas Airlines routes has become effective. The new rate has resulted in savings to shippers of from 14 to 25 percent.

These airport-to-airport rates are equal to or lower than the lowest rates under AOA's previous three weight classifications from New York, Boston, Chicago, Philadelphia, and Washington, to points in Newfoundland, Ireland, England, Holland, Germany, and the Scandinavian nations.

New 4-Motored Transport Is Developed in Canada

A new four-engined transport has been developed in Canada for the Canadian Government, to be used by Trans-Canada Air Lines and the Department of National Defense. A combination of TCA and Dougles design, with British-made Rolls-Royce liquid-cooled engines, the plane will have a maximum cruising speed of 325 miles an hour and will be able to fly nonstop for a distance of 3,500 miles, and as high as 28,000 feet. For the sake of economy, however, it will usually be operated at lower powers, and at speeds between 240 and 300 miles an hour.

UAL Files New Air Freight Tariff Offering Decreased Rates on Volume Shipments

In an air freight tariff filed with the Civil Aeronautics Board for an effective date of August 17, United Air Lines shows rates as low as 17½ cents a pound on volume transcontinental shipments of 16,000 pounds. The rates are scaled to decrease as the volume increases from the present 3,000-pound load up to a maximum of 16,000 pounds.

One feature of the tariff is a provision to allow a shipper the volume rates on the total poundage of individual shipments made in any 24-hour period. No change is made in existing rates on shipments up to 3,000 pounds.

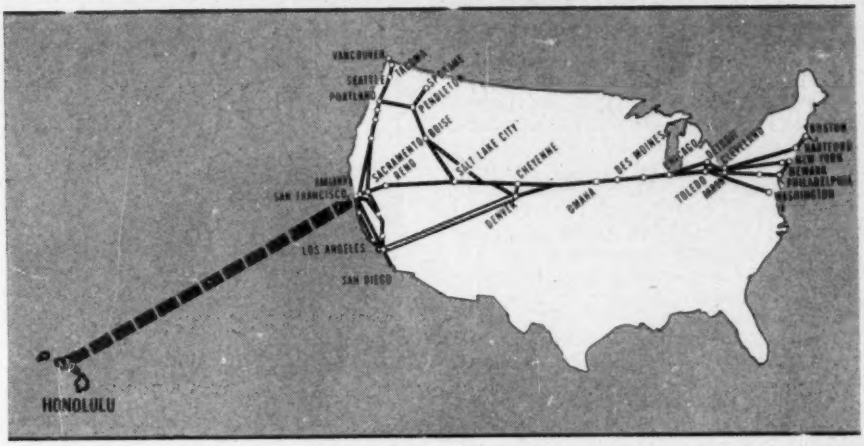
The volume rates will permit a shipper to send 16,000 pounds from Chicago to New York for $5.60 per 100 pounds, or a 7,500-pound shipments for $7.77 per 100 pounds. Other typical examples are: 7,500 pounds from New York to the Pacific Coast, $23.54 per 100 pounds; from Seattle to Chicago, $17.05 per 100 pounds; from Cleveland to San Francisco, $19.83 per 100 pounds, and from Los Angeles to Portland, Ore., or Chicago to Boston, $8.70 per 100 pounds.

Another new feature of the airline's air freight operations will be guaranteed space allocations on its *Cargoliners* and *Mainliners*, assuring accommodations to any destination on the company's system.

El Paso Air Fete

The second annual International Aviation Celebration will be held in El Paso, Texas, on December 12-15.

NOW IT'S HONOLULU



How the new CAB-approved transpacific route from San Francisco to Honolulu, by United Air Lines, looks. This will give through service to the Pacific from Eastern and Midwestern cities. Service will be inaugurated when four-engine equipment and personnel can be assigned.

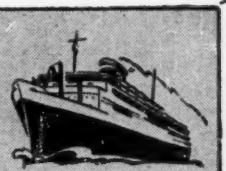
Algiers, Tunis and Tripoli Now on Regular TWA Route

Trans World Airlines has inaugurated regular service to Algiers, Tunis and Tripoli in North Africa. Planes take off from Washington, pick up passengers at Philadelphia, New York and Boston in the United States, and arrive in Algiers 22 hours and 35 minutes later. Intermediate stops are made at Gander, Newfoundland, and Shannon, Eire, and Lisbon and Madrid. Cairo is the terminal point of the new service.

Tripoli, now used for refueling only, will be included as a regular passenger loading and discharge point in the future. *Skymasters* are being used. Sample one-way fares to Algiers are $492 from Washington, $486 from Philadelphia, $482 from New York and $473 from Boston, not including the tax.

Air Lanes over Vienna

The Russian authorities have granted the United States straight air lanes over Soviet-controlled territory between Vienna, Linz, Budapest, and Prague.

BARR
SERVICE

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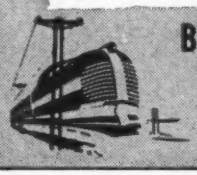
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Port Authority Pleads for Non-Scheduled Air Carriers

The Port of New York Authority has recommended that the Civil Aeronautics Board, in amending its economic regulations relating to non-scheduled air carriers, permit non-certificated air cargo carriers who have applications before the CAB for certificates to continue operations until final action is taken.

It was also suggested by the Authority that non-certificated carriers should be permitted to offer seasonal passenger service and regular cargo service for a limited development period up to 15 days a month between points having reasonably direct certificated service. In addition, the Board was asked to regard a 25-mile rather than a 15-mile radius as a reasonable traffic-generating area for a certificated airline point.

British Group Raps Lowered Commissions on Air Freight

The Air Section of the Institute of Shipping and Forwarding Agents, London, England, recently directed a vigorous protest to the secretary of the European Traffic Conference of the International Air Transport Association as a result of the reduction from 10 percent to five percent on commissions paid to agents on freight obtained for and shipped by IATA member airlines. The overseas commission of five percent remains the same.

It was requested that the matter be reopened, and that 7½ percent be granted agents during the interim period. The protest was followed up by letters to the London representatives of all foreign airlines, requesting support in the matter when the question is raised again at the next meeting.

BREAKING GROUND FOR PACIFIC AIRMOTIVE

Top officials of the Pacific Airmotive Corporation at the ground-breaking program which took place recently at the building site, Hollywood Way and Tulare Street, Burbank, California. Left to right are A. G. Edenquist, vice-president; E. O. Locher, vice president in charge of branch operations; Earl Herring, president; and Joe E. Earll, Sr., vice president in charge of sales. More than 112,000 square feet of additional space will be provided in Pacific Airmotive's new plant. The corporation has been formulating plans and conducting research for more than two years prior to launching its national dealer program. A short while ago this program was presented to Pacific Airmotive managers, field representatives, and sellers, at a convention held in Glendale, California.

FLAMINGO AT AVON PARK

Officials of Avon Park, Florida, on hand at the local airport to greet officials of Flamingo Air Service which has reached an agreement with the city for the use of its hangar facilities. Left to right are J. A. Johnson, president, Chamber of Commerce; J. L. Stenback, Flamingo secretary-treasurer; Mrs. Stenback; C. H. Walker, president, Florida Citrus Exchange; S. J. Pendleton, City Council member; S. C. Pardee, Jr., City Attorney; John L. Delegal, City Council member; Mayor E. A. Delaney; Mattie Thompkins, City Council member; R. W. Bowen, Flamingo vice president; C. P. Anderson, Avon Park Aviation Committee; B. C. McMahon, Jr., Flamingo vice president-sales; Walter S. Betts, director, Chamber of Commerce; A. M. Owens, executive secretary, Chamber of Commerce.

PAA, AT&T Work Out Fast System for Reservations

Equipment to speed the handling of reservations by hours is now being installed by Pan American World Airways.

A teletypewriter system is already in action between Houston and New Orleans, New Orleans and Miami and New York. The three links are part of a system of 12,000 miles of leased wire which will, within a few months, connect the cities already named with Chicago, San Francisco, Los Angeles, and Seattle.

The teletypewriter network was worked out with the aid of American Telephone and Telegraph Company engineers and will consist of six links: New York-Miami, Houston-New Orleans, New Orleans-Miami, New York-San Francisco (with a tie-in to Chicago), San Francisco-Los Angeles, and San Francisco-Seattle. Washington, D. C., will have a wire to the New York reservation sales unit.

When the entire network is in operation, it will be possible for anyone in any of the company's sales offices to get a reservation confirmation on principal *Clipper* flights from and to the United States inside of a few minutes. For example, if a sales unit in Houston receives a request for space out of Seattle, the message is teletyped to New Orleans, where it is relayed to Miami, and, in turn, to New York, San Francisco, and Seattle. There the desired space is checked, and an answer returned in a matter of moments.

AIR TRANSPORTATION Books

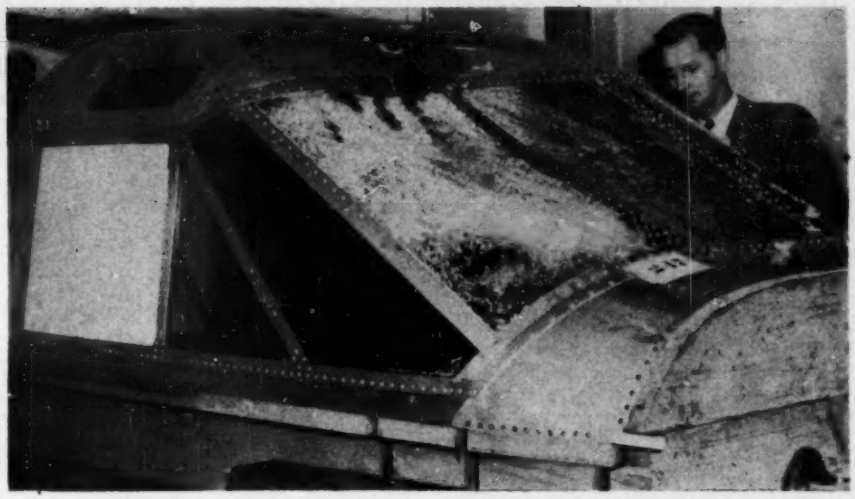
AIRPORT PLANNING — By CHARLES FROESCH and WALTHER PROKOSCH. *(John Wiley & Sons, 440 Fourth Avenue, New York; 250 pages; $7.00).* Detailed coverage of the subject, complete with illustrations, by two outstanding experts in the field. Froesch is chief engineer of Eastern Air Lines, and Prokosch is an architect in the engineering department of the same company. The foreword was written by Eddie Rickenbacker. Divided into a dozen sections, plus glossary and index, the book analyzes airport problems from a fundamental and functional viewpoint. *Airport Planning* certainly is a must for those even remotely connected with aviation.

THE AVIATION MECHANIC'S ENGINE MANUAL—By JOHN W. VALE, JR. *(McGraw-Hill Book Company, 330 West 42 Street, New York; 757 pages; $5.00).* Written by the director of technical training for the Northrup Aeronautical Institute, the book is designed as a preparation work for aircraft engine mechanics going after a mechanic's rating. Briefly and concisely Vale covers most of the vital facts of engine theory and modern practices from the point of view of maintenance, overhaul, and flight mechanical problems. Plenty of illustrations.

BASIC AIR NAVIGATION—By E. F. BLACKBURN. *(McGraw-Hill Book Company, 330 West 42 Street, New York; 300 pages; $4.00).* A comprehensive analysis of the air navigator's problems from the time the flight is first planned until destination is reached. The author is chief navigation instructor for the Atlantic Division of Pan American Airways. The authoritativeness of the book is further enhanced by numerous illustrations.

THE CASE AGAINST THE ADMIRALS—By WILLIAM BRADFORD WHITE. *(E. P. Dutton and Company, 300 Fourth Avenue, New York; 216 pages; $2.50).* A body-blow to the midsection of the "old-line reactionaries in the Navy high command," this volume is frankly an argument in favor of unification. It's a powerful book—one that all should read, regardless of whether they're for unification of the armed forces or against it.

BEECH MAKES 'EM BIRD-PROOF



P. H. Pelley, Beech Aircraft design engineer, shown examining a Beechcraft D18C windshield after it received the full impact of two four-pound birds, one on each section, at 225 miles per hour. Under flying conditions, only one section would be hit, leaving clear visibility for the pilot or copilot. The first bird-proof windshield to meet Civil Aeronautics Authority requirements, it was recently given successful two-day tests in the CAA laboratory at Indianapolis. Flying conditions were simulated by a compressed air cannon which fired chickens at the windshield at 160, 195, 225, and 250 miles per hour. In the initial test, at 160 miles per hour, no damage to the windshield resulted—the first time in the laboratory's history at this speed. Penetration was attempted at 250 miles per hour, but no serious windshield failure was reported.

THE GERMAN AIR FORCE—By ASHER LEE. *(Harper and Brothers, 49 East 33 Street, New York; 310 pages; $3.50).* The author, a wing commander in the Royal Air Force, is the British Air Ministry's top authority on the German Air Force. In his book he tells the full story of the Luftwaffe's all-out attempt to rule the skies, and why it failed. The foreword is by General Carl Spaatz.

INTO SIAM, UNDERGROUND KINGDOM—By NICOL SMITH and BLAKE CLARK. *(The Bobbs-Merrill Company, 468 Fourth Avenue, New York; 315 pages; $3.50).* If you want adventure, mystery, international intrigue, here it is—not as fiction, but purely factual. It's an OSS story in an Oriental setting. 'Nuff said.

MUST DESTRUCTION BE OUR DESTINY?—By HARRISON BROWN. *(Simon and Schuster, 1230 Sixth Avenue, New York; 158 pages; $2.00).* This is a book we heartily recommend. Whether we like it or not we've got the atomic bomb, and we're stuck with it. The new problems which were born with the first atomic bomb burst on Hiroshima are our current nightmare. By all means, read Harrison Brown's sensible approach to atomic energy and atomic diplomacy.

NEW YORK! NEW YORK!—By RUTH MCANENY LOUD and AGNES ADAMS WALES. *(Duell, Sloan and Pearce, 270 Madison Avenue, New York; 78 pages; $1.25).* Illustrated by Eileen Evans, this short book is an attractive guide to the most famous city in America. We recommend it to air tourists and to their children.

THE STORY OF THE HELICOPTER—By DEVON FRANCIS. *(Coward-McCann, Inc., 2 West 45 Street, New York; 182 pages; $3.00).* Another book on the helicopter by one of the better-known members of the aviation journalists. It is good reading, and tells the story in clear, easy form. The helicopter is on the way, and the author has made certain that his readers know all about its background, current achievements, and possibilities. Don't overlook it when next visiting your bookshop.

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Continental, Sears Speed Delivery of Purchases By Airborne Telethrift Idea

The Sears Roebuck Company of Denver and Continental Air Lines are cooperating in a new air freight wrinkle—Airborne Telethrift Shopping—which provides overnight delivery by air to buyers in Pueblo, Colorado Springs, and Denver, from the Kansas City warehouse of the vast retail chain. By the simple expedient of telephoning the Airborne Telethrift divisions of the Sears stores in any of the three cities, purchases are relayed each day at 2 p.m. by direct wire to Kansas City.

In Kansas City these purchases are given preference over the routine mail orders by their immediate selection from stock and packaging in one hour, compared to the 3½ hours consumed in the normal processing of mail orders. Airborne shipments are then consolidated in canvas containers assigned to the individual cities, speeded to the airport and placed aboard the early evening flights of Continental. Delivery is made to the customer in the three Colorado cities earl the following morning by a fleet of package delivery trucks.

This high-speed service is provided at no extra cost to the consumer, who pays only the catalog price of the merchandise plus a small delivery charge based on a scale of 15 cents for shipments up to five pounds, 20 cents for shipments up to 15 pounds, with continued reductions in rates to a 90-cent charge for a 100-pound package. The delivery charge also covers all additional costs other than the price of the merchandise, including the delivery direct to the customer's door.

Airborne Telethrift Shopping is the result of many months of research and marketing surveys by the airline group and Sears executives. Installation of an extensive teletype and telephone system between the Colorada cities and Kansas City was necessary to provide the fast and direct communication service.

This revolutionary plan of catalog merchandising, geared to the speed of air transportation, is the brainchild of John A. Smith, Continental's cargo sales manager, who has been associated with air shipping for the past 10 years; and James E. Peri, sales promotion manager of the Sears store in Denver. As the result of the plan, Sears customers in Colorado who formerly waited many days and sometimes weeks to receive their purchases by the mail order parcel post method, are now assured of overnight delivery by air freight.

Test shipments have revealed that it is possible to complete an order, from the time of the initial 'phone call until it is picked up at the airport by Sears' truck, in the short span of seven hours and 35 minutes. The airline pointed out that the small difference between the delivery charge to the customer and the published Continental Air Lines' air freight tariff rate is absorbed by Sears, but that these costs will be reduced to a minimum as shipments increase due to the economies of air shipping directly affecting a reduction in operating expenses, warehousing costs, and the elimination of inventories.

FIRST TELETHRIFT SHIPMENT—Mayor Stapleton of Denver receiving the initial package flown by Continental Air Lines for Sears Roebuck's Airborne Telethrift Shopping Service. Left to right are Robert F. Six, Continental's president; Mayor Stapleton; First Officer Evans Ferris; Captain O. E. "Ted" Hauster, Continental vice president - operations; Gordon Metcalf, assistant to the president of Sears Roebuck, Chicago; and Wade Hampton, executive director of Sears' Denver store.

"No Fatal Accident" Record Set Up by 18 U.S. Airlines

Eighteen United States Airlines completed their operations last year without a single fatal accident, the National Safety Council reported in announcing its 1945 Aviation Safety Awards.

Among the largest airlines (those flying more than 125,000,000 passenger-miles in the year), United Air Lines, was the group winner for the second consecutive year. At the close of 1945, United had accumulated 1,655,872,324 passenger-miles since its last fatal accident on May 1, 1942. Three other lines also had no-fatality records for the year, but they had flown fewer passenger-miles since their last fatality. The lines, with their cumulative totals, are: Transcontinental and Western Air, 555,094,118; Braniff Airways, 476,574,900; and Northwest Airlines, 440,003,618.

Among the airlines flying from 30,000,000 to 125,000,000 passenger-miles in 1945, Delta Air Lines was the group winner with a perfect record in 1945 and 311,840,152 passenger-miles since its last fatal accident in 1935. Other perfect records in this group and the year-end mileage since the last fatal accident were: Chicago and Southern Air Lines, 277,713,270; Western Air Lines, 192,330,140; Continental Air Lines, 122,851,247; Mid-Continent Airlines, 118,955,830; Northeast Airlines, 90,645,084; and Pan American-Grace Airways, 78,294,462.

Hawaiian Airlines, won the award in the group operating less than 30,000,000 passenger-miles, with a record of 92,987,024 passenger-miles since a fatal accident. Others in this group with perfect records and their mileage totals since a fatality occurred were: Colonial Airlines, 92,193,790; American Overseas Airlines, 33,691,467; Inland Air Lines, 25,652,845; Caribbean-Atlantic Airlines, 2,239,600; Uraba, Medellin & Central Airways, 1,584,612; and Essair, 1,409,269.

In addition to the awards to the three group winners, the other 15 airlines with perfect 1945 records will receive Certificates of Safe Operation. The awards were made on the basis of official records of the Civil Aeronautics Administration.

CAB's Proposed Amendment Would Choke Competition, Waterman Official States

Bon Geaslin, counsel and vice president of Waterman Airlines, in a statement before the Civil Aeronautics Board, declared that the value of more than 550 airline-type aircraft will be destroyed by the CAB's proposed regulations in the non-scheduled air carrier field. He said that the Board's action would "necessarily result in a complete strangulation of competition with the air transportation monopoly which has been developed as a result of the Board's denial of certificates to new applicants."

Waterman Airlines, which is owned and controlled by the Waterman Steamship Corporation which was recently denied an application for an overseas air service in the CAB's "Latin American decision," is currently operating between New Orleans, Mobile, and San Juan on a non-scheduled basis. The company also operates an intrastate service in Alabama. Waterman is particularly active in the Sea-Air Committee.

Geaslin's statement pointed out that the exemption order which the amendment would end encouraged Waterman and many other airlines to acquire equipment and to inaugurate non-scheduled services within its framework. This, he said, resulted in the expansion of air transportation services throughout the United States "which the certificated airlines do not offer and which they cannot perform." This development, Geaslin added, came about without cost to the Government and the taxpayer.

Emphasis was placed on the suggestion that every non-certificated air carrier should be required to comply with the same safety regulations applied to certificated air carriers engaged in scheduled operations. It was further suggested that the amendment be modified to eliminate the non-scheduled classification, and that curbs on overseas operations to foreign countries and territories be removed. These carriers, Geaslin urged, should be defined as "non-certificated," a definition to include all air carriers directly engaged in aircraft operation and in air transportation without mail pay. The proposal was made to establish a maximum of 25 trips per calendar month or 500 hours total revenue flight time, whichever is greater, between any two points.

USSR Civil Air Plans

Soviet Russia has set as its civil aviation goal an increase of 1,000 percent its present internal airline operations by 1950. This announcement was made by Air Marshal Fedor Astakhov, chief of the Civil Air Service. Route mileage would be increased to 108,789.

New AA Office

A new international ticket office for transatlantic air travelers was opened last month by American Airlines at 18 West 49 Street, New York City.

Taylorcraft Expanding

Taylorcraft Aviation Corporation is negotiating for two additional assembly sites, in Tulsa, Oklahoma, and Fresno, California.

My 12 Minutes With The Magic Mistress

(Continued from page 24)

grabbed for the sides of my cockpit for I realized that I was flying upside down. It was unnecessary, however, for the force of our momentum kept me glued to the seat, just as the water remains in the bucket when you swing it rapidly above your head. Slowly the earth and sky resumed their proper perspective as the pilot performed an Immelman and turned the *Mystic Mistress* right side up.

I tried to draw a deep breath but didn't get a chance as I suddenly saw the ground and sky start to change places again as Schultz went into a series of barrel rolls. Over and over and over and then right side up again as I stared with horrible fascination at the revolving horizon. Then another sharp bank, and as we began our tactical approach to the field I heard the tower control give us permission to come in.

At the end of a long glide, the wheels of the *Magic Mistress* touched the runway with a bump, and I took that long breath I had been trying to take for the last half of the ride. As the *Mistress* rolled to a halt, I sat still for a minute to pull myself together. Then I unbuckled my seat belt and my parachute, pushed up the goggles, and pulled myself out of the cockpit. I turned around to thank Schultz, and he grinned quizzically at me. He was chewing gum and had pushed his goggles up on his helmet.

"Have a good ride?", he asked.

I looked at my watch: it had taken exactly 12 minutes — 12 minutes to achieve a speed of 464 miles per hour —12 minutes to burn up 107 gallons of gasoline—and smiled back weakly at the pilot as I teetered slightly on the ground and answered one word: "Wonderful."

It was!

The Big Job . . . Simplifying Terminal Problems

(Continued from page 20)

rack space readily accessible so that the passenger may be responsible for his own baggage. That means there must be space of adequate size so that the passenger may deposit his baggage on entry to the plane, and as he leaves the airplane, may take hold of it and depart.

In order to facilitate the handling of the airplane itself in and out of the airport, the airplane should be equipped with the reversible pitch propeller that will enable the airplane to run right into a dock where the passenger will have means of ready ingress and egress. When the plane is ready for departure the reversible pitch of the propeller will enable it to back out. Or perhaps the way to handle airplanes when they have taxied to an approximate position is to hook a tractor onto the tail wheel and pull it straight into the gate, thus reducing the amount of space needed to maneuver the airplane. With the great number of large airplanes now coming into service, the consequent amount of space needed for maneuvering, a person waiting to board an airplane might have an extended walk to his departing plane.

So far, I have discussed only terminal problems as they are affected by the passenger. The growth of air mail and express volume has contributed to terminal congestion. With plans to reduce air mail rates and eventually even to carry other classes of mail by air; and with plans also to develop freight and express volume to a point undreamed of on the basis of past volume, further congestion is unavoidable. I suggest as the only remedy for the great metropolitan airport that these classes of business be handled at separate airports where the terminal buildings are designed for the specific purpose of handling this class of traffic.

I believe that the accomplishment of many of the things which I have proposed depend on the complete cooperative efforts of the airlines. Transportation to and from airports must be a cooperative venture. Information as to flights must be given in a uniform manner over the telephone. Mass transportation and cooperative efforts to and from airports should result in a great decrease in the fares, thus reducing the hidden costs of air transportation. At the airports the airlines by cooperative efforts should arrange for the uniform loading and unloading of airplanes and the use of the ramp facilities, all to the end that the passenger after arrival at the airport may leave for his destination as rapidly as possible. The age of individual effort of the airlines to outdo one another in the number of personnel they have on the ramp and the assortment of equipment of various makes and designs must end in the interest of mass transportation and its rapid and easy handling, thus contributing to the simplication of terminal problems.

15 Nations Give Pick-up Patents to All American

Patents on air pick-up in 15 countries have been issued to All American Aviation, Inc. The countries involved are the United States, Bolivia, Brazil, Canada, Chile, Costa Rica, Ecuador, El Salvador, England, Guatemala, Mexico, Nicaragua, Panama, Trinidad, and Tobago.

PAA Transports 300 Turkeys to Alaska

A shipment of 300 baby turkeys was flown recently from Seattle to Alaska by Pan American Clipper. The gobblers are needed for a controlled turkey raising experiment, headed by Lorin Oldroyd, of the Agricultural Experiment Station at the University of Alaska.

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LANDING FEES

Scheduled and Non-Scheduled

AKRON MUNICIPAL AIRPORT

Akron, Ohio

B. E. Fulton, airport manager, writes that landing charges at Akron Municipal Airport are "$50 per schedule with $200 minimum, meaning that four schedules can operate for the $200, but it would cost $50 for each additional schedule." There is a charge of $1 per 1,000 pounds excess weight over 26,000 pounds. No charges for cargo or non-scheduled operations.

JACKSONVILLE MUNICIPAL AIRPORT No. 1

Jacksonville, Florida

Landing fees are $1.00 per 1,000 pounds per month for each regular scheduled flight per day, with a minimum of $10, the regular fee being charged extra sections which operate for as much as 30 consecutive days. Example: a regular scheduled flight of a DC-3 per day would be $24 per month, since the weight set by the CAA is 24,000 pounds.

KANSAS CITY MUNICIPAL AIRPORT

Kansas City, Missouri

Landing fees for scheduled flights are as follows: for aircraft weighing less than 10,000 pounds, $50 for the first arrival per month, $25 per month for the second, and $12.50 per month thereafter; for aircraft weighing between 10,000 pounds and 50,000 pounds, $100 per month for the first arrival, $50 per month for the second, and $25 per month thereafter; on aircraft weighing in excess of 50,000 pounds, there is an additional charge of $1 per 1,000 pounds above 50,000 pounds.

At the present time there are no charges for non-scheduled operations. However, according to W. T. Brown, Commissioner of Municipal Airports, studies are being made "with a view towards setting up such a charge some time in the near future."

PORT COLUMBUS AIRPORT

Columbus, Ohio

"At the present time," reports Francis A. Bolton, superintendent of the airport, "the landing fees at Port Columbus for scheduled airlines are $50 for the first three landings and $25 for all landings thereafter. For aircraft grossing over 26,000 pounds, the City of Columbus receives an additional $1.00 for each 1,000 pounds over the 26,000 pounds. There is a $2.50 landing fee for non-scheduled cargo flights that unload at Port Columbus, and $5.00 for each non-scheduled aircraft taking on a new load."

WEIR COOK MUNICIPAL AIRPORT

Indianapolis, Indiana

Fees and fixed charges are applicable for any aircraft either designed for or capable of transporting a payload of one ton or more. In cases where the Weir Cook Municipal Airport is used for fuel stops only, or in cases where cargo or passengers neither terminate nor originate, the charges are not applicable. The establishment of such fees are expressly to cover aircraft utilizing the field commercially.

Nonscheduled Operations

	per annum
First 10 landings	$10.00 each
Next 10 landings	5.00 "
All additional landings	2.50 "

The above landing fees cover parking on the airport for a period not to exceed six hours for any one landing, and an additional fee of $2.50 for each additional six hours or fraction thereof will be charged, it being understood that such overtime parking is for commercial reasons. Charges are made where aircraft are grounded because of inclement weather or mechanical difficulty.

Scheduled Operations

$50.00 each, per month, for the first two scheduled landings.
$37.50 each, per month, for the next two scheduled landings.
$25.00 each, per month, for the next six scheduled landings.
$12.50 each, per month, thereafter.

In cases where air freight and passengers are mixed, thus requiring the use of municipal terminal facilities, all of the above fees are doubled. This is applicable both to passengers terminating or originating at the Weir Cook Municipal Airport. The term "scheduled landings" means approved scheduled landings for any of the aforesaid activities, and such fees are applicable whether or not the schedule is physically completed.

Incoming pilots of such commercial carriers are required to register at the City Desk in the lobby of the administration building upon arrival and before departure. Billing for such fees or charges are on a monthly basis for all companies, corporations or individuals having an established credit record.

NOTE: AIR TRANSPORTATION *will publish landing fees as they are received. For complete details on rates mentioned in the special landing fees table but not published this month, consult back issues or write to the editor.*

BOAC Seaplanes to Orient

British Overseas Airways Corporation is expected to use flying boat equipment between Singapore, Hong Kong, and Shanghai.

LANDING FEES

		Scheduled				Non-Scheduled	
City	Airport	1st Trip per Month	2nd Trip per Month	3rd Trip per Month	Gross Weight (lbs.)	Per Landing	Gross Weight (lbs.)
Akron	Akron	$50.00[5]	$50.00	$50.00	26,000	No charges	.....
Albany	Albany	50.00	25.00	25.00	50,000	Not available	.....
Baltimore	Baltimore[4]	75.00	75.00	75.00	26,000	See footnote[4]	.....
Bellingham	Bellingham	45.00	45.00	45.00	.....	None	.....
Birmingham	Birmingham	100.00	50.00	25.00	.....	Not available	.....
Boston	Logan	100.00	100.00	100.00	.....	Not available	.....
Buffalo	Buffalo	50.00	50.00	50.00	25,000	$1.67	25,000
Chicago	Chicago	200.00	200.00	200.00	25,000	Not available	.....
Cincinnati	Lunken	6.25	6.25	6.25	.....	Not available	.....
Cleveland	Cleveland	150.00	150.00	150.00	.....	7.50[1]	.....
Columbus	Port Columbus	50.00	50.00	50.00	26,000	2.50[7]	.....
Dallas	Love	See footnote[2]	.....	.....	.....	See footnote[2]	.....
Detroit	Detroit	100.00	100.00	100.00	.....	No charges	.....
Indianapolis	Weir-Cook[4]	50.00	50.00	$37.50	.....	10.00[4]	.....
Jacksonville	Municipal No. 1.	See footnote[6]	.....	.....	.....	Not available	.....
Kansas City	Kansas City[4]	50.00	25.00	12.50	26,000	No charges	.....
Long Beach	Long Beach[4]	3.00	3.00	3.00	32,000	3.00	32,000
Los Angeles	Los Angeles	See footnote[3]	.....	.....	25,500	See footnote[3]	25,500
New York	LaGuardia[4]	200.00	200.00	200.00	25,000	20.00	25,000
New York	Idlewild	See footnote[4]	.....	.....	.....	20.00	25,000
Newark	Newark	See footnote[4]	.....	.....	.....	See footnote[4]	.....
St. Louis	Lambert-St.Louis.	100.00	100.00	100.00	.....	No charges	.....
Wash., D.C.	National	.....	.....	.....	.....	2.50	.....

[1] If cargo is loaded, the fee is $10.
[2] 8c per 1,000 lbs.
[3] $10 per departure per cargo plane. Consult article for additional information.
[4] Consult article for detailed information.
[5] Minimum charge of $200.
[6] $1 per 1,000 lbs. per month for each daily scheduled flight.
[7] Charge doubled if new load is taken on.

Thomas H. L

H. Fletcher B

Lawrence B.

Gert Meide

John B. Dori

Ben C. Tarnut

AIR TRANSPORTATION *Congratulates*

Thomas H. Lockett

H. Fletcher Brown

Lawrence B. Richardson

Gert Meidell

John B. Doriss

Ben C. Tarnutzer

★ EXECUTIVE ★

THOMAS H. LOCKETT, Counselor of Embassy at the United States Embassy at Bogota, Colombia, who has resigned from the Department of State to take over the position of vice president of Braniff International Airways. A native Kentuckian, Lockett represented the United States in Mexico for 12½ years before his appointment to Colombia last year.

H. FLETCHER BROWN, named vice president in charge of production manufacturing of the Boeing Airplane Company. His appointment followed the resignation of H. O. West as executive vice president of the Boeing Airplane Company and the Boeing Aircraft Company. For the past 12 years Brown has been manager of the Wichita Division plants.

HERBERT A. WALKER, appointed comptroller for Air Cargo Transport Corporation. He has been a financial executive of the Atlas Corporation for 14 years. Walker also has been connected with the Munson Steamship Lines.

REAR ADMIRAL LAWRENCE RICHARDSON, Deputy and Assistant Chief of the Navy Bureau of Aeronautics, who has become associated with the Curtiss-Wright Corporation as executive assistant to the president. He is a member of the National Advisory Committee for Aeronautics, and during the war served in many important committee posts directly related to aviation. A native of Swampscott, Massachusetts, Richardson was promoted to the rank of rear admiral in 1943.

ADMIRAL PAULUS P. POWELL, recently retired from the United States Navy after nearly four decades' service, named special representative for Pan American World Airways in Brazil, Argentina, Uruguay, and Paraguay. A veteran of both World Wars, he was a key figure in Admiral William F. Halsey's Third Fleet.

CAPTAIN GERT MEIDELL, designated North American representative of Norwegian Airlines, succeeding Philip N. Wilcox who recently resigned. He joined the airline 12 years ago when it inaugurated European operations. Previously he had served with the Fred Olsen Lines. During the war he served in the Royal Norwegian Air Force, and for several years served as traffic manager of the Norwegian Air Force Transport Command.

ROBERT T. HOOPES, appointed assistant to Richard E. Fell, Eastern Region vice president of Capital Airlines-PCA. A war veteran, Hoopes holds the Legion of Merit, and the Bronze Star Medal.

J. J. MEDARIES and **CHARLES P. KNECHT,** named assistants to the vice president-traffic of Delta Air Lines. Medaries has been with DAL since 1936 and Knecht since 1935.

★ ADVERTISING ★ PUBLIC RELATIONS

JOHN B. DORISS, appointed supervisor of advertising of TACA Airways System, with headquarters in Miami. Doriss has been connected with Time, Inc.; the Kudner Advertising Agency; *Aero Digest*; and Pratt and Whitney Aircraft. He is a Dartmouth alumnus.

BEN C. TARNUTZER, named advertising manager of the Pacific-Alaska Division of Pan American World Airways. A graduate of the University of California, Tarnutzer has been connected with advertising and promotional activities for 20 years. He has served as advertising and publicity manager of Yosemite Park and the Curry Company.

KEN ELLINGTON, elected chairman of the Eastern Region Public Relations Advisory Committee of the Aircraft Industries Association; and **WALTER T. BONNEY,** new vice chairman of the committee. Ellington is director of public relations for Republic Aviation Corporation, and Bonney holds a similar post with the Bell Aircraft Corporation.

★ TRAFFIC ★

PRESCOTT A. TOLMAN and **W. L. MORRISETTE, JR.,** promoted by Eastern Air Lines to the respective positions of general traffic and sales manager and director of traffic procedures. Prior to entering the armed services in 1942, Tolman served EAL for seven years in various capacities; Morrisette joined the company six years ago.

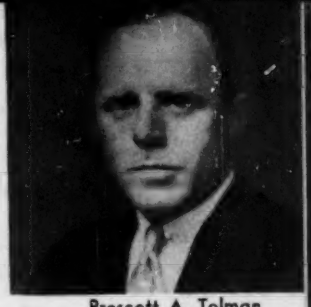
DANIEL J. HARKINS, former commander in the United States Navy, appointed assistant division traffic manager of Pan American World Airways' Atlantic Division. Until this year Harkins was United States representative on the Technical Marine Commission in Berlin and was assigned to the office of the Port Director in New York City.

LIEUTENANT COMMANDER B. B. EDWARDS, appointed general traffic manager of Alaska Airlines. He served 41 months in the Naval Air Transport Servie. For five years prior to entering the Navy, Edwards served as general traffic manager for Mid-Continent. He has also been connected with Braniff.

GEORGE L. STREHLKE, named traffic manager of the Northern Region for TACA Airways System. He originally entered aviation with Pacific Transport which later merged with United Air Lines. Strehlke also held down the job of district traffic manager for Pan American. During this period he served as chairman of the Latin American Committee of the Los Angeles Chamber of Commerce, and as vice president of the Foreign Trade Association of Southern California.

DAVID A. STODDARD, appointed by Eastern Air Lines as district manager in charge of the Nashville-Chattanooga area. A native of Decatur, Illinois, he joined EAL more than six years ago.

MORGAN R. NICKELL, with United Air Lines for nearly 11 years, named district traffic and sales manager at Philadelphia. **ALFRED M. NELSON,** who joined UAL in 1936, has been elevated to the same position at Boise, Idaho.


Prescott A. Tolman

W. L. Morrisette, Jr.

Daniel J. Harkins

F. D. Miller

L. H. Fletcher Bitner

J. Harvey Gray

EVELYN DALY, H. W. CUTSHALL, JR., and **CHARLES A. GLOVER, JR.,** new city managers for Eastern at the respective cities of Nashville, San Antonio, and Houston.

★ CARGO ★

F. D. MILLER, named by American Airlines as its new director of cargo sales to succeed J. M. Wooten. Miller, who served during the war as a lieutenant commander in the Navy, is formerly a director of sales training for the airline. **JOSEPH BOYLAN** has been made assistant director of cargo sales.

L. H. FLETCHER BITNER, formerly district sales manager for Northeast Airlines at New York, promoted to the position of manager of passenger and cargo sales. He joined NEA in 1943 and served with the Military Transport Division at bases in the North Atlantic. Bitner also has served as district traffic manager in Eastern Canada.

★ SALES ★

J. HARVEY GRAY, veteran test pilot, appointed sales and service manager of the Personal Planes Division of the Fairchild Engine and Aircraft Corporation. He has been manager of transport sales in the Fairchild export department since last December. In 1935 he was appointed director of military aviation of Ecuador's Air Corps in which he held the honorary rank of colonel. He was awarded the Ecuadorian Government's highest decoration for his services in organizing and training the Air Force.

H. H. MURPHY, JR., named passenger sales manager, Northern Region, for TACA. Before joining TACA he was associated with United in various capacities. He also served in the AAF for more than three years.

★ OPERATIONS ★

HARRY KENT, who has 23 years of aviation experience behind him, now serving as operations manager for Wiggins Airways. He has been with the company for eight years. In 1940 he took charge of a British war pilot training program at the Spartan School of Aeronautics in Oklahoma.

★ MISCELLANEOUS ★

H. STRUVE HENSEL, who was Assistant Secretary of the Navy until March of this year, appointed legal counsel of the newly organized Independent Airfreight Association, Inc.

MINOT C. MULLIGAN, who has been with the Reconstruction Finance Corporation since 1932, named secretary of the Civil Aeronautics Board.

Legal Notes

(Continued from page 39)

As the court said (p. 1008):

"We think that the landowner, as an incident to his ownership, has a claim to it (the superadjacent airspace), and that invasions of it are in the same category as invasions of the surface."

The court held, however, that it was not clear from the record whether the easement was a permanent, or temporary one and reversed the judgment and remanded the case to the Court of Claims so that it may make the necessary findings in conformity with this opinion.

TWO DECADES OF SERVICE

H. M. Horner (left), president of the United Aircraft Corporation, shown receiving his 20-year service pin from Frederick B. Rentschler, founder of the firm and chairman of the board. Horner joined the Pratt and Whitney Aircraft Division of United Aircraft in the Summer of 1926. At that time he was fresh out of the Sheffield Scientific School, Yale University. His first job was in the purchasing department, and through the years he moved up in the ranks until 1943 when he was elected president of the corporation.

Flying Ambulance

(Continued from Page 33)

is equipped to seat four passengers beside the patient. It is a twin engine Beechcraft, similar to the Army C-45 and is piloted by an ex-Army flyer, Bruce Wilson.

The service launched the latter part of December 1945, is receiving emergency calls weekly. Because Birmingham will soon be the site of the University of Alabama's new and gigantic school of medicine, this flying service will take on added meaning for thousands of persons living in small towns or remote districts of the state. For at such time that the medical center swings into motion, no resident in Alabama will be more than one air hour away from some of the finest medical facilities in the United States.

Other cities throughout the country, especially those with fine clinical facilities, will undoubtedly follow Birmingham's example and inaugurate such a service in order that these facilities can be reached by those who, for many years, because of the lack of speedy transportation, have been running the chance of losing the race with death.

This article appears in AIR TRANSPORTATION through the cooperation of HYGEIA.

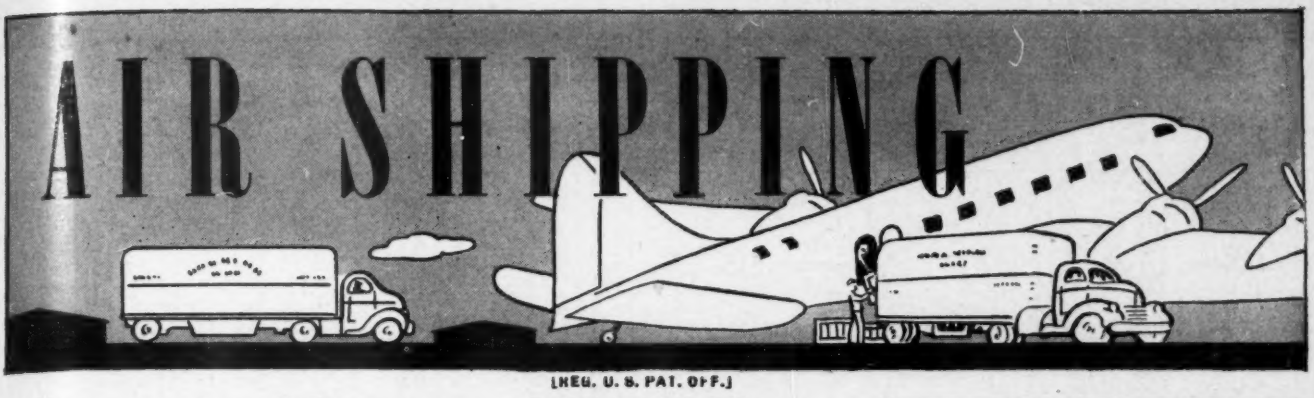
New Avenues in Aviation

(Continued from Page 32)

All of us in this industry realize the need for regulations which will stimulate fair competition and further the cause of American air transportation. But, at the same time, we believe that the distinction between non-scheduled and scheduled operations as it stands today is totally inadequate.

Again let us look at the record. The equipment we fly is the same as that flown by so-called scheduled carriers. The men we employ are as thoroughly trained as those employed by the other airlines. The equipment is manufactured by the same companies. The men were trained at the same schools. Our safety standards are as high as those of any airline in the country. Most of us adhere to the Army system of safety checks, which is, if anything, even higher than that set by the CAA. Our safety record is one of the highest in the history of aviation.

What we want, therefore, is the right to continue our operations. Legislation should be enacted which will allow us to continue in a legal rather than a black market status. Only then will the fixed-base air carriers be able to face the future with confidence.



[REG. U. S. PAT. OFF.]

International Express and Mail Tables

Air express rates quoted are from U. S. International airport of departure (U. S. Gateway) and are based on the prevailing tariffs, airport to airport (see note); also see note for Airfreight rates. Shippers are warned, however, that these are subject to change.

GATEWAY SYMBOLS

Bb—Bangor, Me.
Bro—Brownsville, Tex.
Bw—Boston, Mass.
Cg—Chicago
Cub—Cut Bank, Mont.
Di—Dallas
Eo—El Paso
Fv—Fort Worth
Gf—Grand Forks, N. D.
Jg—Burlington, Vt.
Lgs—Los Angeles
Lo—Laredo
Mia—Miami
No—New Orleans
Nyk—New York
Ph—Philadelphia
Sa—San Antonio
Sf—San Francisco
Sq—San Diego
Ste—Seattle
Wa—Washington, D.C.

International Air Express is subject to two charges: one a charge per pound weight or measurement at carrier's option (200 cu. in. to the pound of weight), the other a charge per $100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pickup service without extra charge is available for all international air express, except shipments routed through American Overseas Airlines. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local REA office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Overseas Airlines, Inc., shippers should contact "Shipper's Service," 100 East 42nd Street, New York 17, N. Y. LExington 2-5700.)

International air carriers whose schedules are rates are included here are indicated by the letter following the symbol for the airport.

AIRLINE SYMBOLS

A—American Airlines
AO—American Overseas Airlines
B—Braniff Airways
C—Colonial Air Lines
EA—Expreso Aereo Inter-Americano
K—KLM-Royal Dutch Airlines
NE—Northeast Airlines
NW—Northwest Airlines
P—Pan American Airways System and affiliates
T—Trans-Canada Air Lines
TA—TACA
TW—Transcontinental & Western Air
U—United Air Lines
W—Western Air Lines

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e., 1 lb. package from New York to Ontario would cost $1 or 25 lbs. $4. Average cost per lb., 16¢. . . . Valuation rates are only due if consignments are shipped with declared value. . . . American Airlines and American Overseas Airlines offer lower rates per pound on shipments weighing 50 pounds and over. The valuation charge shown for AOA is only practicable on shipments with a valuation of $7.71 per pound. For further information, contact AA or AOA.					
* British Overseas Airways Corp. carries from Foynes, Ireland, to destinations in England, Scotland, and Wales.					
† Canadian air express is carried on the same basis as air express within the U. S.: $50 declared value free; excess charged at 10 cents per $100 or fraction thereof.					
LATIN AMERICAN ROUTES					
Amalfi, Colombia	Mia P	.77	.32	Su,M,T,W,F	.15
"	Bro P	1.15	.43	Su,T,F	.15
"	No P	1.11	.43	Su,T,F	.15
"	Lgs P	1.44	.43	Su,M,Th	.15
Andagoya, Colombia	Mia P	.81	.32	Su	.15
"	No P	1.12	.43	F	.15
"	Bro P	1.15	.43	F	.15
"	Lgs P	1.42	.43	Th	.15
Antigua, B.W.I.	Mia P	.64	.32	Thrice Dly	.10
"	Nyk P	.56	.32	Dly	.10
"	No P	.96	.32	Dly	.10
"	Bro P	1.10	.43	Dly	.10
"	Lgs P	1.35	.43	Dly	.10
Antilla, Cuba	Mia P	.24	.15	Dly	.08
Antofagasta, Chile	Mia P	1.26	.43	Dly except T	.20
"	No P	1.34	.43	Dly except M	.20
"	Bro P	1.34	.43	Dly except M	.20
"	Lgs P	1.56	.43	Dly except S	.20
Aracju, Brazil	Mia P	1.26	.43	Th,Sa	.20
"	Nyk P	1.55	.43	Th,Sa	.20
"	No P	1.53	.43	W,F	.20
"	Bro P	1.60	.43	W,F	.20
"	Lgs P	1.90	.43	T,Th	.20
Arequipa, Peru	Mia P	1.16	.43	Dly	.15
"	No P	1.26	.43	Dly	.15
"	Bro P	1.26	.43	Dly	.15
"	Lgs P	1.51	.43	Dly	.15
Arica, Chile	Mia P	1.26	.43	Su,M,W,Th, Sa	.20
"	No P	1.26	.43	Dly except M	.20
"	Bro P	1.26	.43	Dly except M	.20
"	Lgs P	1.53	.43	Dly except Su	.20
Aruba, N. W. I.	— P	via C	urac	ao, N.W.I.	...
"	Mia K	.61	.32	Dly	.10
Asuncion, Paraguay	Mia P	1.53	.43	Su,T,F	.20
"	Nyk P	1.77	.43	Su,T,F	.20
"	No P	1.75	.43	Su,W,F	.20
"	Bro P	1.86	.43	Su,W,F	.20
"	Lgs P	2.19	.43	T,Th,Sa	.20
Ayapel, Colombia	Mia P	.67	.32	T,Th	.15
"	No P	1.04	.32	M,F	.15
"	Bro P	1.14	.43	M,F	.15
"	Lgs P	1.41	.43	Su,Th	.15
Bahia, Brazil (*See Sao Salvador*)					
Balboa, Canal Zone	Mia P	.55	.32	Dly	.10
"	MiaTA	.76	.20	Frequently	.10
"	No P	.82	.32	Dly	.10
"	Bro P	.86	.32	Twice Dly	.10
"	Lgs P	1.15	.43	Dly	.10
Baracoa, Cuba	Mia P	.28	.17	Dly	.08
Barcelona, Venezuela	Mia P	.71	.32	Dly	.15
"	Nyk P	.82	.32	Dly	.15
"	No P	1.02	.32	Dly	.15
"	Bro P	1.12	.43	Dly	.15
"	Lgs P	1.36	.43	Dly	.15
Barranca, Bermeja, Col.	Mia P	.75	.32	Su,T,W,F,Sa	.15
"	No P	1.12	.43	Su,M,Th,F	.15
"	Bro P	1.20	.43	Su,M,Th,F	.15
"	Lgs P	1.49	.43	Su,W,Th,Sa	.15
Barranquilla, Colombia	Mia K	.72	.32	M,F	.15
"	Mia P	.49	.32	Twice Dly	.15
"	Bro P	.96	.32	Dly	.15
"	No P	.86	.32	Dly	.15
"	Lgs P	1.23	.43	Dly	.15
Bauru, Brazil	Mia P	1.46	.43	Tu,F,Sa	.20
"	Nyk P	1.67	.43	T,F,Sa	.20
"	No P	1.60	.43	Su,W,Th	.20
"	Bro P	1.71	.43	Su,W,Th	.20
"	Lgs P	2.05	.43	Tu,W,Sa	.20
Bayamo, Cuba	Mia P	.24	.15	Dly	.08
Belem, Brazil	Mia P	1.09	.43	Twice Dly	.20
"	Nyk P	1.20	.43	Dly	.20
"	MiaTA	1.09	.43	Frequently	.20
"	No P	1.33	.43	Dly	.20
"	Bro P	1.34	.43	Dly	.20
"	Lgs P	1.56	.43	Dly	.20
Belize, Br. Hond.	MiaTA	.41	.20	Frequently	.10
Bello-Horizonte, Brazil	Mia P	1.44	.43	Dly	.20
Bello-Horizonte (Cont.)	Nyk P	1.64	.43	Dly	.20
"	No P	1.56	.43	Dly	.20
"	Bro P	1.69	.43	Dly	.20
"	Lgs P	1.99	.43	Dly	.20
Bluefield, Nicaragua	MiaTA	.60	.20	Frequently	.10
Bogota, Colombia	Mia P	.77	.32	Twice Dly	.15
"	No P	1.08	.43	Dly	.15
"	Bro P	1.11	.43	Dly	.15
"	Lgs P	1.38	.43	Dly	.15
Bonaire, N. W. I.	— P	via C	urac	ao, N.W.I.	...
"	Mia K	.68	.32	M,T,Th,F,Sa	.10
Bonanza, Nicaragua	MiaTA	.61	.20	Frequently	.10
Bucaramanga, Colombia	Mia P	.75	.32	Su,W,F	.15
"	No P	1.12	.43	Su,M,Th,F	.15
"	Bro P	1.20	.43	Su,M,Th,F	.15
"	Lgs P	1.48	.43	Su,W,Th,Sa	.15
Buenaventure, Col.	Mia P	.84	.32	Su	.15
"	No P	1.19	.43	F	.15
"	Bro P	1.20	.43	F	.15
"	Lgs P	1.52	.43	Th	.15
Buenos Aires, Argentina	Mia P	1.56	.43	Twice Dly	.20
"	Nyk P	1.84	.43	Dly	.20
"	No P	1.62	.43	Dly	.20
"	Bro P	1.65	.43	Dly	.20
"	Lgs P	1.95	.43	Dly	.20
Caibarien, Colombia	Mia P	.22	.15	Dly	.15
Cali, Colombia	Mia P	.71	.32	Dly	.25
"	No P	.94	.32	Dly	.25
"	Bro P	.97	.32	Dly	.25
"	Lgs P	1.24	.43	Dly	.25
Camaguey, Cuba	Mia P	.18	.15	Seven Dly	.08
"	Mia K	.17	.15	M,Th	.08
Campeche, Mexico	Mia P	.39	.17	Dly	.08
"	No P	.35	.17	Dly	.08
"	Bro P	.49	.32	Dly	.08
"	Lgs P	.89	.32	Dly	.08
Campo Grande, Brazil	Mia P	1.48	.43	T,F,Sa	.20
"	Nyk P	1.75	.43	T,F,Sa	.20
"	No P	1.61	.43	Su,W,Th	.20
"	Bro P	1.60	.43	Su,W,Th	.20
"	Lgs P	2.15	.43	Su,W,Th	.20
Canavieiras, Brasil	Mia P	1.33	.43	Th,Sa	.20
"	Nyk P	1.63	.43	Th,Sa	.20
"	No P	1.56	.43	T,Th	.20
"	Bro P	1.62	.43	T,Th	.20
"	Lgs P	1.99	.43	T,Th	.20
Caracas, Venezuela (*See La Guaira*)					
Caravellas, Brasil	Mia P	1.36	.43	T,W,F,Sa,Su	.20
"	Nyk P	1.64	.43	Su,T,W,F,Sa	.20
"	No P	1.59	.43	S,M,W,Th,F	.20
"	Bro P	1.73	.43	Su,M,W,Th,F	.20
"	Lgs P	2.03	.43	Su,T,W,Th, Sa	.20
Cartagena, Colombia	Mia P	.58	.32	Dly	.15
"	No P	.95	.32	Dly	.15
"	Bro P	1.05	.32	Dly	.15
"	Lgs P	1.32	.43	Dly	.15
Cartago, Colombia	Mia P	.80	.32	Dly	.15
"	No P	1.03	.32	Dly	.15
"	Bro P	1.06	.32	Dly	.15
"	Lgs P	1.33	.43	Dly	.15
Cat Cay, Bahamas	Mia P	.10	.15	M,Th,Sa	.10
Cayenne, Fr. Guiana	Mia P	.97	.32	Dly	.15
"	Nyk P	1.07	.43	Dly	.20
"	No P	1.32	.43	Dly	.15
"	Bro P	1.26	.43	Dly	.15
"	Lgs P	1.51	.43	Dly	.15
Cayo Mambi, Cuba	Mia P	.26	.17	Dly	.08
Chetumal, Mexico	Mia P	.45	.17	M,W,F	.08
"	No P	.43	.17	M,W,F	.08
"	Bro P	.55	.32	M,W,F	.08
"	Lgs P	.93	.32	Su,T,Th	.08
Chiclayo, Peru	Mia P	.94	.32	Dly	.15
"	No P	1.14	.43	Dly	.15
"	Bro P	1.17	.43	Dly	.15
"	Lgs P	1.40	.43	Dly	15
Cienfuegos, Cuba	Mia P	.20	.15	Dly	.08
Cienaga, Colombia	Mia P	.58	.32	Dly	.15
"	No P	.95	.32	Dly	.15
"	Bro P	1.05	.32	Dly	.15
"	Lgs P	1.32	.43	Dly	.15
C. del Carmen, Mexico	Mia P	.43	.17	Dly	.08
"	No P	.41	.17	Dly	.08
"	Bro P	.44	.17	Dly	.08
"	Lgs P	.85	.32	Dly	.08
Ciudad Trujillo, D. R.	Mia P	.43	.17	Five Dly	.10
"	Mia TA	.43	.20	Frequently	.10
"	Nyk P	.53	.32	Dly	.10

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Ciudad Trujillo (Cont.)	Mia K	.73	.32	T	.10
Ciudad Victoria Tampa.	Dl B	.30	.17	Dly	.08
"	Fv B	.30	.17	Dly	.08
"	Lo B	.16	.15	Dly	.08
"	Sa B	.23	.17	Dly	.08
Cochabamba, Bolivia..	Mia P	1.26	.43	M,W,Sa	.20
"	No P	1.35	.43	Su,T,F	.20
"	Bro P	1.35	.43	Su,T,F	.20
"	Lgs P	1.56	.43	M,Th,Sa	.20
Concepcion, Bolivia....	Mia P	1.31	.43	Sa	.20
"	No P	1.45	.43	F	.20
"	Bro P	1.45	.43	F	.20
"	Lgs P	1.62	.43	F	.20
Condoto, Colombia.....	Mia P	.81	.32	Su	.15
"	No P	1.12	.43	F	.15
"	Bro P	1.15	.43	F	.15
"	Lgs P	1.42	.43	Th	.15
Cordoba, Argentina....	Mia P	1.46	.43	Dly	.20
"	No P	1.55	.43	Dly	.20
"	Bro P	1.56	.43	Dly	.20
"	Lgs P	1.85	.43	Dly	.20
Coro, Venezuela.....	Mia P	.62	.32	Dly	.15
"	Nyk P	.88	.32	Dly	.15
"	No P	.96	.32	Dly	.15
"	Bro P	1.04	.32	Dly	.15
"	Lgs P	1.30	.43	Dly	.15
Corozal, Colombia.....	Mia P	.65	.32	Dly	.15
"	No P	1.02	.32	Dly	.15
"	Bro P	1.12	.43	Dly	.15
"	Lgs P	1.39	.43	Dly	.15
Corumba, Brazil.....	Mia P	1.36	.43	Su,W,Sa	.20
"	No P	1.48	.43	M, Th	.20
"	Bro P	1.50	.43	M,Th	.20
"	Lgs P	1.69	.43	Su,W	.20
Cristobal, Canal Zone..	Mia P	.57	.32	Dly	.10
"	No P	.83	.32	Dly	.10
"	Bro P	.86	.32	Dly	.10
"	Lgs P	1.15	.43	Dly	.10
Cucuta, Colombia.....	Mia P	.75	.32	Dly	.15
"	No P	1.12	.43	Dly	.15
"	Bro P	1.20	.43	Dly	.15
"	Lgs P	1.49	.43	Dly	.15
Cuenca, Ecuador.....	Mia P	.86	.32	Su,W,F	.15
"	No P	1.06	.32	T,Th,Sa	.15
"	Bro P	1.10	.43	T,Th,Sa	.15
"	Lgs P	1.35	.43	M,W,F	.15
Curacao, N.W.I.....	Mia P	.59	.32	Dly	.10
"	Nyk P	.74	.32	Dly	.10
"	No P	.93	.32	Dly	.10
"	Bro P	1.07	.43	Dly	.10
"	Lgs P	1.33	.43	Dly	.10
"	Mia K	.66	.32	Dly	.10
Curityba, Brazil.....	Mia P	1.46	.43	Su,W,Th	.20
"	Nyk P	1.68	.43	Su,T,W	.10
"	No P	1.60	.43	M,W,F	.20
"	Bro P	1.75	.43	M,W,F	.20
"	Lgs P	2.06	.43	Th,Su,T	.20
David, Panama.....	Mia P	.60	.32	Dly	.10
"	MiaTA	.60	.20	Frequently	.10
"	No P	.76	.32	Dly	.10
"	Bro P	.81	.32	Dly	.10
"	Lgs P	1.10	.43	Dly	.10
El Banco, Colombia....	Mia P	.67	.32	Dly	.15
"	No P	1.04	.32	Su,M,F	.15
"	Bro P	1.14	.43	Su,M,F	.15
"	Lgs P	1.41	.43	Su,Th,Sa	.15
Esmeraldas, Ecuador...	Mia P	.93	.32	W,Sa	.15
"	No P	1.11	.43	T,F	.15
"	Bro P	1.11	.43	T,F	.15
"	Lgs P	1.38	.43	M,Th	.15
Florianopolis, Brasil....	Mia P	1.48	.43	Su,W	.20
"	Nyk P	1.70	.43	Su,W	.20
"	No P	1.64	.43	F,M	.20
"	Bro P	1.79	.43	M,F	.20
"	Lgs P	2.08	.43	S,Th	...
Fortaleza, Brazil (Ceara)	Mia P	1.23	.43	Dly	.20
"	Nyk P	1.39	.43	Dly	.20
"	No P	1.44	.43	Dly	.20
"	Bro P	1.51	.43	Dly	.20
"	Lgs P	1.72	.43	Dly	.20
Gamarra, Colombia....	Mia P	.75	.32	M,W,Th	.15
"	No P	1.12	.43	Su,M,F	.15
"	Bro P	1.20	.43	Su,M,F	.15
"	Lgs P	1.49	.43	Su,Th,Sa	.15
Georgetown, British Guiana.....	Mia P	.85	.32	Dly	.15
"	Nyk P	.86	.32	Dly	.15
"	No P	1.12	.43	Dly	.15
"	Bro P	1.24	.43	Dly	.15
"	Lgs P	1.46	.43	Dly	.15
Golfito, Costa Rica.....	Mia TA	.66	.20	Frequently	.10
Guadalajara, Mexico...	Bro P	.37	.17	Dly	.08
"	Lgs P	.59	.27	Dly	.08
Guantanamo, Cuba....	Mia P	.26	.17	Twice Dly	.08
Guapi, Colombia.....	Mia P	.87	.32	Su	.15
"	No P	1.10	.43	F	.15
"	Bro P	1.13	.43	F	.15
"	Lgs P	1.40	.43	Th	.15
Guatemala City, Gua...	Mia P	.63	.32	Dly	.10
"	MiaTA	.48	.20	Frequently	.10
"	No P	.49	.32	Twice Dly	.10
"	Bro P	.53	.32	Twice Dly	.10
"	Lgs P	.90	.43	Dly	.10
Guayaquil, Ecuador....	Mia P	.85	.32	Dly	.15
"	No P	1.05	.32	Dly	.15
"	Bro P	1.07	.43	Dly	.15
"	Lgs P	1.33	.43	Dly	.15
Havana, Cuba.....	Mia P	.12	.15	Several Dly	.08
"	Mia EA	.12	.15	Twice Dly	.08
"	Mia TA	.12	.15	Frequently	.08
Hermosillo, Mexico.....	Lgs P	.24	.15	Dly	.08

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Holguin, Cuba.....	Mia P	.22	.15	Dly	.08
Honda, Colombia.....	Mia P	.80	.32	Dly	.15
"	No P	1.13	.43	Dly	.15
"	Bro P	1.17	.43	Dly	.15
"	Lgs P	1.46	.43	Dly	.15
Iguassu Falls, Brazil....	Mia P	1.51	.43	Su,T	.20
"	Nyk P	1.75	.43	Su,T	.20
"	No P	1.69	.43	Su,F	.20
"	Bro P	1.84	.43	Su,F	.20
"	Lgs P	2.14	.43	Th,Sa	.20
Ipiales, Colombia.....	Mia P	.89	.32	Dly	.15
"	No P	1.12	.43	Dly	.15
"	Bro P	1.15	.43	Dly	.15
"	Lgs P	1.42	.43	Dly	.15
Istmina, Colombia.....	Mia P	.81	.32	Su	.15
"	No P	1.12	.43	F	.15
"	Bro P	1.15	.43	F	.15
"	Lgs P	1.42	.43	Th	.15
Ixtepec, Mexico.....	Mia P	.68	.32	M,T,W,Th, F,Su	.08
"	No P	.64	.32	Su,T,W,Th, Sa,M	.08
"	Bro P	.36	.17	Su,T,W,Th, F,M	.08
"	Lgs P	.81	.32	Su,T,W,Th, Sa,M	.08
Joao Passoa (Cabadello).	Mia P	1.25	.43	Th	.20
"	Nyk P	1.47	.43	Th	.20
"	No P	1.49	.43	T	.20
"	Bro P	1.55	.43	T	.20
"	Lgs P	1.82	.43	M	.20
Kingston, Jamaica.....	Mia P	.28	.17	Dly	.10
"	Mia K	.32	.17	Su,T,W,F,Sa	.15
La Ceiba, Honduras....	Mia TA	.53	.20	Frequently	.10
La Guaira, Venezuela...	Mia P	.66	.32	Dly	.15
"	Mia K	.73	.32	Dly	.10
"	Nyk P	.82	.32	Dly	.15
"	No P	.98	.32	Dly	.15
"	Bro P	1.09	.43	Dly	.15
"	Lgs P	1.30	.43	Dly	.15
La Gloria, Colombia....	Mia P	.72	.32	Su,T,W	.15
"	No P	1.09	.43	Su,M,F	.15
"	Bro P	1.19	.43	Su,M,F	.15
"	Lgs P	1.46	.43	Su,Th,Sa	.15
La Paz, Bolivia.....	Mia P	1.22	.43	M,T,W,F,Sa	.20
"	No P	1.30	.43	M,T,Th,F,Sa	.20
"	Bro P	1.30	.43	M,T,Th,F,Sa	.20
"	Lgs P	1.54	.43	Su,M,W,Th,F	.20
Libertad, Nicaragua....	Mia TA	.58	.20	Frequently	.10
Lima, Peru.....	Mia P	1.05	.32	Dly	.15
"	No P	1.24	.43	Dly	.15
"	Bro P	1.24	.43	Dly	.15
"	Lgs P	1.46	.43	Dly	.15
Limon, Costa Rica.....	Mia TA	.64	.20	Frequently	.10
Loja, Ecuador.....	Mia P	.89	.32	W	.15
"	No P	1.09	.43	T	.15
"	Bro P	1.12	.43	T	.15
"	Lgs P	1.36	.43	M	.15
Lorica, Colombia.....	Mia P	.66	.32	Su,T,W	.15
"	No P	1.03	.32	F	.15
"	Bro P	1.13	.43	F	.15
"	Lgs P	1.40	.43	Th	.15
Maceio, Brazil.....	Mia P	1.26	.43	Dly	.20
"	Nyk P	1.52	.43	Dly	.20
"	No P	1.51	.43	Dly	.20
"	Bro P	1.56	.43	Dly	.20
"	Lgs P	1.86	.43	Dly	.20
Magangue, Colombia...	Mia P	.65	.32	Su,T,W	.15
"	No P	1.02	.32	Su,M,F	.15
"	Bro P	1.12	.43	Su,M,F	.15
"	Lgs P	1.39	.43	Su,Th,Sa	.15
Managua, Nicaragua...	Mia P	.65	.32	Dly	.10
"	MiaTA	.55	.20	Frequently	.10
"	No P	.64	.32	Twice Dly	.10
"	Bro P	.68	.32	Twice Dly	.10
"	Lgs P	1.00	.32	Dly	.10
Manaos, Brazil.....	Mia P	1.24	.43	Su,W,Th	.20
"	Nyk P	1.44	.43	Su,W,T	.20
"	No P	1.48	.43	M,T,F	.20
"	Bro P	1.54	.43	M,T,F	.20
"	Lgs P	1.79	.43	S,M,Th	.20
Manizales, Colombia...	Mia P	.81	.32	Dly	.15
"	No P	1.04	.32	Dly	.15
"	Bro P	1.07	.43	Dly	.15
"	Lgs P	1.34	.43	Dly	.15
Manta, Ecuador.....	Mia P	.88	.32	M,Th,Sa	.15
"	No P	1.07	.43	Su,W,F	.15
"	Bro P	1.10	.43	Su,W,F	.15
"	Lgs P	1.35	.43	Tu,Th,Sa	.15
Manzanillo, Cuba.....	Mia P	.22	.15	Dly	.08
Maracaibo, Venezuela..	Mia P	.59	.32	Dly	.15
"	Mia K	.66	.32	Dly	.15
"	No P	.93	.43	Dly	.15
"	Bro P	1.00	.32	Dly	.15
"	Lgs P	1.27	.43	Dly	.15
Maturin, Venezuela....	Mia P	.74	.32	Dly	.15
"	Nyk P	.78	.32	Dly	.15
"	No P	1.04	.32	Dly	.15
"	Bro P	1.15	.43	Dly	.15
"	Lgs P	1.38	.43	Dly	.15
Mazatlan, Mexico.....	Bro P	.47	.32	Dly	.08
"	Lgs P	.45	.17	Dly	.08
Medellin, Colombia....	Mia P	.75	.32	Dly	.15
"	No P	1.02	.32	Dly	.15
"	Bro P	1.06	.32	Dly	.15
"	Lgs P	1.35	.43	Dly	.15
Mendoza, Argentina....	Mia P	1.41	.43	Su,M,W,Th, Sa	.20
"	No P	1.52	.43	Su,T,Th,F,Sa	.20
"	Bro P	1.53	.43	Su,T,Th,F,Sa	.20
"	Lgs P	1.77	.43	M,W,Th,F,Sa	.20

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Merida, Mexico.....	Mia P	.35	.17	Twice Dly	.08
"	No P	.31	.17	Twice Dly	.08
"	Bro P	.53	.32	Dly	.08
"	Lgs P	.92	.32	Dly	.08
"	Dl B	.56	.32	Dly	.08
"	Fv B	.56	.32	Dly	.08
"	Lo B	.42	.32	Dly	.08
"	Sa B	.49	.32	Dly	.08
Mexicali, Mexico.....	Lgs P	.12	.15	Dly	.08
Mexico City, Mexico...	Mia P	.64	.32	Twice Dly	.08
"	No P	.61	.32	Dly	.08
"	Dl B	.36	.17	Dly	.08
"	Lgs A	.50	.15	Dly	.08
"	Lgs P	.64	.27	Dly	.08
"	Lo B	.24	.17	Dly	.08
"	Fv B	.36	.17	Dly	.08
"	Fv A	.26	.15	Dly	.08
"	Eo A	.29	.15	Dly	.08
"	Sa A	.20	.15	Dly	.08
"	Sa B	.30	.17	Dly	.08
Minatitlan, Mexico.....	Mia P	.51	.32	Dly	.08
"	No P	.47	.32	Dly	.08
"	Bro P	.36	.17	Dly	.08
"	Lgs P	.79	.32	Dly	.08
Monteria, Colombia....	Mia P	.66	.32	Dly	.15
"	No P	1.03	.32	Dly	.15
"	Bro P	1.13	.43	Dly	.15
"	Lgs P	1.40	.43	Dly	.15
Monterrey, Mexico.....	Fv A	.16	.15	Dly	.08
"	Fv B	.27	.17	Dly	.08
"	Dl B	.27	.17	Dly	.08
"	Eo A	.21	.15	Dly	.08
"	Lgs A	.42	.15	Dly	.08
"	Lo B	.13	.15	Dly	.08
"	Sa A	.10	.15	Dly	.08
"	Sa B	.20	.15	Dly	.08
Montevideo, Uruguay..	Mia P	1.55	.43	Twice Dly	.20
"	Nyk P	1.82	.43	Dly	.20
"	No P	1.65	.43	Dly	.20
"	Bro P	1.68	.43	Dly	.20
"	Lgs P	1.98	.43	Dly	.20
Mossoro, Brazil.....	Mia P	1.24	.43	T	.20
"	Nyk P	1.41	.43	Th	.20
"	No P	1.46	.43	Sa	.20
"	Bro P	1.53	.43	Sa	.20
"	Lgs P	1.76	.43	F	.20
Nassau, Bahamas.....	Mia P	.10	.15	Twice Dly	.10
Natal, Brazil.....	Mia P	1.25	.43	Dly	.20
"	Nyk P	1.45	.43	Dly	.20
"	No P	1.48	.43	Dly	.20
"	Bro P	1.54	.43	Dly	.20
"	Lgs P	1.80	.43	Dly	.20
Nuevo Laredo, Mexico..	Dl B	.22	.17	Dly	.08
"	Fv B	.22	.17	Dly	.08
"	Sa B	.15	.15	Dly	.08
"	Lo B	.08	.05	Dly	.08
Oaxaca, Mexico.....	Mia P	.71	.32	Dly except Sa	.08
"	No P	.68	.32	Dly except F	.08
"	Bro P	.30	.17	Dly except Sa	.08
"	Lgs P	.76	.32	Dly except F	.08
Oruro, Bolivia.....	Mia P	1.24	.43	M,T,W,F,Sa	.20
"	No P	1.33	.43	M,T,Th,F,Sa	.20
"	Bro P	1.33	.43	M,T,Th,F,Sa	.20
"	Lgs P	1.55	.43	S,M,W,Th,F	.20
Otu, Colombia.....	Mia P	.77	.32	Su,M,T,W,Th	.15
"	No P	1.13	.43	Su,M,T,W,Sa	.15
"	Bro P	1.17	.43	Su,M,T,W,Sa	.15
"	Lgs P	1.46	.43	Su,M,T,F,Sa	.15
Palmar, Costa Rica....	MiaTa	.65	.20	Frequently	.10
Panama City, Panama..	Mia P	.55	.32	Dly	.10
"	No P	.82	.32	Dly	.10
"	Bro P	.86	.32	Twice Dly	.10
"	Lgs P	1.15	.43	Dly	.10
Para, Brazil (See Belem)					
Paramaribo, Sur.....	Mia P	.92	.32	Twice Dly	.15
"	Mia K	1.14	.43	Sa,W	.15
"	Nyk P	.96	.32	Dly	.15
"	No P	1.18	.43	Dly	.15
"	Bro P	1.25	.43	Dly	.15
"	Lgs P	1.48	.43	Dly	.15
Parnahyba, Brazil.....	Mia P	1.19	.43	Sa	.20
"	Nyk P	1.33	.43	Sa	.20
"	No P	1.38	.43	Th	.20
"	Bro P	1.48	.43	Th	.20
"	Lgs P	1.67	.43	W	.20
Parrita, Costa Rica.....	MiaTa	.62	.20	Frequently	.10
Pasto, Colombia.....	Mia P	.92	.32	Dly	.15
"	No P	1.15	.43	Dly	.15
"	Bro P	1.18	.43	Dly	.15
"	Lgs P	1.45	.43	Dly	.15
Pato, Colombia.....	Mia P	.73	.32	Su,T,W	.15
"	No P	1.10	.43	M,T,Sa	.15
"	Bro P	1.20	.43	M,T,Sa	.15
"	Lgs P	1.47	.43	Su,M,F	.15
Point a Pitre, Guadeloupe.....	Mia P	.80	.32	Dly	.10
"	No P	1.03	.32	Dly	.10
"	Bro P	1.06	.32	Dly	.10
"	Lgs P	1.33	.43	Dly	.10
Popayan, Colombia.....	Mia P	.80	.32	Dly	.15
"	No P	1.03	.32	Dly	.15
"	Bro P	1.06	.32	Dly	.15
"	Lgs P	1.33	.43	Dly	.15
Port au Prince, Haiti...	Mia P	.35	.17	Four Dly	.10
"	Mia K	.38	.17	M,Th	.10
"	Nyk P	.63	.32	Dly	.10
Port of Spain, Trinidad.	Mia P	.74	.32	Thrice Dly	.10
"	Mia K	.89	.32	Su,W,Th	.10
"	Mia Ta	.74	.35	Frequently	.10
"	Nyk P	.72	.32	Dly	.10
"	No P	1.04	.32	Dly	.10

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Port of Spain, (Cont.)	Bro P	1.18	.43	Dly	.10
"	Lgs P	1.41	.43	Dly	.10
Porto Alegre, Brazil	Mia P	1.51	.43	Twice Dly	.20
"	MiaTA	1.51	.43	Frequently	.20
"	Nyk P	1.74	.43	Dly	.20
"	No P	1.69	.43	Dly	.20
"	Bro P	1.84	.43	Dly	.20
"	Lgs P	2.14	.43	Dly	.20
Porto Armuelles, Panama	Mia Ta	.60	.20	Frequently	.10
Porto Cabezas, Nic.	Mia Ta	.62	.20	Frequently	.10
Preston, Cuba	Mia P	.24	.15	Dly	.08
Puebla, Puebla	Dl B	.41	.17	Dly	.08
"	Fu B	.41	.17	Dly	.08
"	Lo B	.27	.17	Dly	.08
"	Sa B	.34	.17	Dly	.08
Puerto Suarez, Bolivia	Mia P	1.36	.43	Sa	.20
"	No P	1.48	.43	F	.20
"	Bro P	1.50	.43	F	.20
"	Lgs P	1.60	.43	Th	.20
Puerto Wilches, Col.	Mia P	.75	.32	Su,T,W	.15
"	No P	1.12	.43	Su,M,F	.15
"	Bro P	1.20	.43	Su,M,F	.15
"	Lgs P	1.49	.43	Su,Th,Sa	.15
Puntarenas, Costa Rica	Mia Ta	.63	.20	Frequently	.10
Quibdo, Ecuador	Mia P	.77	.32	Su	.15
"	No P	1.14	.43	F	.15
"	Bro P	1.19	.43	F	.15
"	Lgs P	1.46	.43	Th	.15
Quito, Ecuador	Mia P	.89	.32	Dly	.15
"	No P	1.09	.43	Dly	.15
"	Bro P	1.09	.43	Dly	.15
"	Lgs P	1.36	.43	Dly	.15
Recife (Pernambuco) Brazil	Mia P	1.26	.43	Dly	.20
"	Nyk P	1.48	.43	Dly	.20
"	No P	1.50	.43	Dly	.20
"	Bro P	1.56	.43	Dly	.20
"	Lgs P	1.84	.43	Dly	.20
Remedios, Colombia	Mia P	.79	.32	Su,M,T,W,Th	.15
"	No P	1.15	.43	Su,M,T,W,Sa	.15
"	Bro P	1.19	.43	Su,M,T,W,Sa	.15
"	Lgs P	1.48	.43	Su,M,T,F,Sa	.15
Rio de Janeiro	Mia P	1.41	.43	Twice Dly	.20
"	MiaTa	1.41	.43	Frequently	.20
"	Nyk P	1.58	.43	Dly	.20
"	No P	1.54	.43	Dly	.20
"	Bro P	1.64	.43	Dly	.20
"	Lgs P	1.94	.43	Dly	.20
Robore, Bolivia	Mia P	1.36	.43	Sa	.20
"	No P	1.48	.43	F	.20
"	Bro P	1.50	.43	F	.20
"	Lgs P	1.69	.43	Th	.20
Salinas, Ecuador	Mia P	.86	.32	Th,Sa	.15
"	No P	1.06	.32	W,F	.15
"	Bro P	1.10	.43	W,F	.15
"	Lgs P	1.35	.43	T,Th	.15
Salta, Argentina	Mia P	1.30	.43	Su,T,F	.20
"	No P	1.45	.43	M,Th,Sa	.20
"	Bro P	1.45	.43	M,Th,Sa	.20
"	Lgs P	1.64	.43	Su,W,F	.20
San Ignacio, Bolivia	Mia P	1.33	.43	Sa	.20
"	No P	1.46	.43	F	.20
"	Bro P	1.48	.43	F	.20
"	Lgs P	1.64	.43	Th	.20
San Jose, Bolivia	Mia P	1.35	.43	Sa	.20
"	No P	1.48	.43	F	.20
"	Bro P	1.49	.43	F	.20
"	Lgs P	1.67	.43	Th	.20
San Jose, Costa Rica	Mia P	.60	.32	Dly	.10
"	MiaTa	.60	.20	Frequently	.10
"	No P	.71	.32	Dly	.10
"	Bro P	.74	.32	Twice Dly	.10
"	Lgs P	1.06	.32	Dly	.10
San Juan, Puerto Rico	Mia P	.53	.32	Six Dly	.08
"	Nyk P	.47	.32	Dly	.08
San Marcos, Colombia	Mia P	.67	.32	T,Th	.15
"	No P	1.04	.32	M,W	.15
"	Bro P	1.14	.43	M,W	.15
"	Lgs P	1.41	.43	Su,T	.15
San Pedro, Sula, Hond.	MiaTa	.53	.20	Frequently	.10
San Salvador, El Salvador	Mia P	.57	.32	Dly	.10
"	MiaTa	.55	.20	Frequently	.10
"	No P	.53	.32	Twice Dly	.10
"	Bro P	.57	.32	Dly	.10
"	Lgs P	.94	.32	Dly	.10
Santa Cruz, Bolivia	Mia P	1.28	.43	M,W,Sa	.20
"	No P	1.43	.43	Su,T,F	.20
"	Bro P	1.43	.43	Su,T,F	.20
"	Lgs P	1.59	.43	M,Th,Sa	.20
Santa Marta, Colombia	Mia P	.59	.32	Dly	.15
"	No P	.96	.32	Dly	.15
"	Bro P	1.06	.32	Dly	.15
"	Lgs P	1.33	.43	Dly	.15
Santiago, Chile	Mia P	1.38	.43	Dly except T	.20
"	No P	1.51	.43	Dly except M	.20
"	Bro P	1.51	.43	Dly except M	.20
"	Lgs P	1.75	.43	Dly except S	.20
Santiago, Cuba	Mia P	.24	.15	Thrice Dly	.08
Sao Luis, Brazil	Mia P	1.16	.43	Dly	.20
"	Nyk P	1.29	.43	Dly	.20
"	No P	1.38	.43	Dly	.20
"	Bro P	1.43	.43	Dly	.20
"	Lgs P	1.62	.43	Dly	.20
Sao Paolo, Brazil	Mia P	1.44	.43	Twice Dly	.20
"	MiaTA	1.44	.43	Frequently	.20
"	Nyk P	1.64	.43	Dly	.20
"	No P	1.56	.43	Dly	.20
"	Bro P	1.69	.43	Dly	.20
Sao Paolo, (Cont.)	Lgs P	1.99	.58	Dly	.20
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.43	Dly	.20
"	Nyk P	1.58	.43	Dly	.20
"	No P	1.54	.43	Dly	.20
"	Bro P	1.64	.43	Dly	.20
"	Lgs P	1.94	.43	Dly	.20
St. Kitts, N. W. I.	Mia K	.96	.35	F	.10
St. Lucia, B.W.I.	Mia P	.71	.32	T,Th,Sa	.10
"	No P	1.00	.32	F	.10
"	Bro P	1.16	.43	F	.10
"	Lgs P	1.39	.43	Th	.10
St. Martin, N.W.I.	Mia K	.88	.32	F	.10
St. Thomas, V.I.	Mia P	.55	.32	Twice Dly	.08
"	Nyk P	.51	.32	Dly	.08
Segovia, Colombia	Mia P	.79	.32	Su,M,T,W,Th	.15
"	No P	1.15	.43	Su,M,T,W,Sa	.15
"	Bro P	1.19	.43	Su,M,T,W,Sa	.15
"	Lgs P	1.48	.43	Su,M,T,F,Sa	.15
Sincelejo, Colombia	Mia P	.67	.32	Dly	.15
"	No P	1.04	.32	Dly	.15
"	Bro P	1.14	.43	Dly	.15
"	Lgs P	1.41	.43	Dly	.15
Suina, Nicaragua	MiaTa	.61	.20	Frequently	.10
Talara, Peru	Mia P	.90	.32	Dly	.15
"	No P	1.10	.43	Dly	.15
"	Bro P	1.12	.43	Dly	.15
"	Lgs P	1.36	.43	Dly	.15
Tampico, Mexico	Bro P	.15	.15	Dly	.08
"	Lgs P	.76	.32	Dly	.08
Tapachula, Mexico	Mia P	.57	.32	Dly	.08
"	No P	.53	.32	Dly	.08
"	Bro P	.49	.32	Dly	.08
"	Lgs P	.88	.32	Dly	.08
Tegucigalpa, Honduras	Mia P	.62	.32	Dly	.10
"	MiaTa	.50	.20	Frequently	.10
"	No P	.59	.32	Dly	.10
"	Bro P	.62	.32	Dly	.10
"	Lgs P	.97	.32	Dly	.10
Tela, Honduras	MiaTa	.53	.20	Frequently	.10
Tucuman, Argentina	Mia P	1.34	.43	Su,T,F	.20
"	No P	1.48	.43	M,Th,Sa	.20
"	Bro P	1.49	.43	M,Th,Sa	.20
"	Lgs P	1.68	.43	Su,W,F	.20
Tumaco, Colombia	Mia P	.91	.32	Su	.15
"	No P	1.14	.43	F	.15
"	Bro P	1.17	.43	F	.15
"	Lgs P	1.44	.43	Th	.15
Tuquerres, Colombia	Mia P	.92	.32	Dly	.15
"	No P	1.15	.43	Dly	.15
"	Bro P	1.18	.43	Dly	.15
"	Lgs P	1.45	.43	Dly	.15
Turbo, Colombia	Mia P	.70	.32	M,T,F,Sa	.15
"	No P	1.02	.32	Su,M,Th,F	.15
"	Bro P	1.06	.32	Su,M,Th,F	.15
"	Lgs P	1.35	.43	Su,W,Th,Sa	.15
Tuxpan, Mexico	Bro P	.18	.15	Dly	.08
"	Lgs P	.74	.32	Dly	.08
Tuxtla, Gutierrez, Mexico	Mia P	.62	.32	Dly except Sa	.08
"	No P	.59	.32	Dly except F	.08
"	Bro P	.42	.17	Dly except Sa	.08
"	Lgs P	.83	.32	Dly except F	.08
Uyuni, Bolivia	Mia P	1.26	.43	T,Th	.20
"	No P	1.38	.43	M,Th	.20
"	Bro P	1.38	.43	M,Th	.20
"	Lgs P	1.56	.43	Su,W	.20
Varadero, Cuba	Mia P	.18	.15	Dly	.08
Veracruz, Mexico	Mia P	.57	.32	Dly	.08
"	No P	.53	.32	Dly	.08
"	Bro P	.28	.17	Dly	.08
"	Lgs P	.76	.32	Dly	.08
"	Dl B	.42	.32	Dly	.08
"	Fv B	.42	.32	Dly	.08
"	Lo B	.28	.17	Dly	.08
"	Sa B	.35	.17	Dly	.08
Victoria, Brasil	Mia P	1.41	.43	Th,Sa	.20
"	Nyk P	1.66	.43	Th,Sa	.20
"	No P	1.59	.43	T,Th	.20
"	Bro P	1.73	.43	T,Th	.20
"	Lgs P	2.03	.43	M,W	.20
Victoria de las Tunas, Cuba	Mia P	.22	.15	Dly	.08
Villahermosa, Mexico	Mia P	.47	.32	Dly	.08
"	No P	.43	.17	Dly	.08
"	Bro P	.40	.17	Dly	.08
"	Lgs P	.83	.32	Dly	.08
Villavicencio, Col.	Mia P	.81	.32	Dly	.15
"	No P	1.18	.43	Dly	.15
"	Bro P	1.15	.43	Dly	.15
"	Lgs P	1.42	.43	Dly	.15

ATLANTIC ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Algiers, Algeria	WaTW	2.31	.25	Su	.70
"	Ph TW	2.29	.25	Su	.70
"	NykTW	2.28	.25	M	.70
"	BwTW	2.26	.25	M	.70
Amsterdam, Netherlands	NykAO	1.55	.25	T	.30
Athens, Greece	NykTW	2.41	.25	W	.30
"	WaTW	2.44	.25	T	.30
"	BwTW	2.39	.25	W	.30
"	Ph TW	2.42	.25	T	.30
"	Cg TW	2.54	.25	(Temp. Susp.)	.30
Berlin, Germany	NykAO	1.80	.15	T	...
"	WaAO	1.86	.15	T	...
Bolama, Portuguese Guinea, Africa	Nyk P	2.66	.43	Fortnightly	.50
Botwood Newfoundland	Nyk P	.81	.32	Su,W,F	.15
Brussels, Belgium	Nyk P	1.26	.43	Th,Sa	.30
Cairo, Egypt	NykTW	2.56	.25	M,W	.70
"	WaTW	2.59	.25	Su,T	.70
"	BwTW	2.54	.25	M,W	.70
"	Ph TW	2.57	.25	Su,T	.70
"	Cg TW	2.64	.25	(Temp. Susp.)	.70
Copenhagen, Denmark	NykAO	1.90	.25	F	.30
Dakar, Senegal, Africa	Nyk P	2.36	...	M,W	.45
Foynes, Eire via Botwood	Nyk P	1.78	.43	Su,W,F	.30
Frankfort-am-Main, Germany	NukAO	1.67	.15	T	...
"	WaAO	1.73	.15	T	...
Gander, N. F.	WaTW	.84	.20	Su,T	.15
"	Ph TW	.82	.20	Su,T	.15
"	NykTW	.81	.20	Dly	.15
"	BwTW	.79	.20	M,W	.15
"	Nyk P	.49	.32	M,Sa	.15
Geneva, Switzerland	NykTW	2.10	.25	W	.30
"	WaTW	2.13	.25	T	.30
"	BwTW	2.08	.25	W	.30
"	Ph TW	2.11	.25	T	.30
"	Cg TW	2.31	.25	(Temp. Susp.)	.30
Hamilton, Bermuda	Nyk P	.37	.17	Dly	.10
Leopoldville, Belg. Congo	Nyk P	3.63	.43	W	.60
Lisbon, Portugal	Nyk P	1.28	.43	M,W	.30
"	NykTW	2.03	.25	M	.30
"	WaTW	2.06	.25	Su	.30
"	BwTW	2.01	.25	M	.30
"	Ph TW	2.04	.25	Su	.30
London, England	Bw AO	1.39	.25	T	.30
"	Cg AO	1.66	.25	M	.30
"	NykAO	1.45	.25	Dly	.30
"	Nyk P	1.17	.43	M,W,F,Sa	.30
"	Ph AO	1.48	.25	F	.30
"	Wa AO	1.51	.25	W,F	.30
Madrid, Spain	NykTW	2.13	.25	M	.30
"	WaTW	2.16	.25	Su	.30
"	BwTW	2.11	.25	M	.30
"	Ph TW	2.14	.25	Su	.30
Monrovia (Fisherman's Lake), Liberia	Nyk P	2.67	.43	M,W	.50
Oslo, Norway	NykAO	1.88	.25	T	.30
Paris, France	BwTW	2.01	.25	W	.30
"	NykTW	2.03	.25	Dly	.30
"	Ph TW	2.04	.25	T	.30
"	WaTW	2.06	.25	T	.30
"	Cg TW	2.23	.25	(Temp. Susp.)	.30
Prague, Czech.	Nyk P	1.44	.43	Th,Sa	.30
Rome, Italy	NykTW	2.24	.25	W	.30
"	WaTW	2.27	.25	T	.30
"	BwTW	2.22	.25	W	.30
"	Ph TW	2.25	.25	T	.30
"	Cg TW	2.41	.25	(Temp. Susp.)	.30
Scotland via Foynes*	Nyk P	(Rates on Application)			.30
Shediac, N. B.	Nyk P	.51	.17	Su,W,F	.08
Shannon, Eire	Bw AO	1.29	.25	T	.30
"	BwTW	1.76	.20	M,W	.30
"	Cg AO	1.55	.25	M	.30
"	Cg TW	2.03	.25	(Temp. Susp.)	.30
"	NykAO	1.35	.25	Su,T,W,Th,Sa	.30
"	Nyk P	1.09	.43	Dly	.30
"	NykTW	1.78	.25	Dly	.30
"	Ph AO	1.38	.25	F	.30
"	Ph TW	1.76	.25	Su,T	.30
"	Wa AO	1.41	.25	W,F	.30
"	WaTW	1.81	.25	Su,T	.30
Stockholm, Sweden	NykAO	1.99	.25	F	.30
Tripoli, Libya	WaTW	.....	...	Su	...
"	Ph TW	.....	...	Su	...
"	NykTW	.....	...	M	...
"	BwTW	.....	...	M	...
Tunis, Tunisia	WaTW	2.43	.25	Su	.33
"	Ph TW	2.41	.25	M	.33
"	NykTW	2.39	.25	M	.33
"	BwTW	2.33	.25	M	.33
Vienna, Austria	Nyk P	1.49	.43	Th,Sa	.30
Wales via Foynes*	Nyk P	(Rates on Application)			.30

ALASKA ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Aniak	Alaska	Ste P	.83	.32	Sa	.08
Bethel	"	Ste P	.86	.32	Sa	.08
Burwash Landing	"	Ste P	.55	.32	Dly	.08
Fairbanks	"	Ste P	.68	.32	Dly	.08
Flat	"	Ste P	.79	.32	Sa	.08
Galena	"	Ste P	.77	.32	S,T,Th	.08
Juneau	"	Ste P	.43	.17	Thrice Dly	.08
Ketchikan	"	Ste P	.33	.17	Thrice Dly	.08
Lake Minchumina	"	Ste P	.73	.32	Sa	.08
McGrath	"	Ste P	.76	.32	Sa	.08
Moses Point	"	Ste P	.82	.32	Su,T,Th	.08
Nome	"	Ste P	.85	.32	S,T,Th	.08
Tanacross	"	Ste P	.62	.32	Dly	.08
Tanana	"	Ste P	.73	.32	Dly	.08
Whitehorse, Canada		Ste P	.49	.32	Dly	.08

CANADIAN ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Calgary, Alb.	Nyk T	1.02	†	Dly	.08
Edmonton, Alb.	Nyk T	1.06	†	Dly	.08
Halifax, N. S.	Nyk T	.31	†	Dly	.08
"	Bw C	.31	†	Dly	.08
Lethbridge, Alb.	Nyk T	.84	†	Dly	.08
"	Cub W	.04	†	Dly	.08
London, Ont.	Nyk T	.18	†	Dly	.08
Moncton, N. B.	BbNE	.08	†	Dly	.08
Montreal, Que.	Nyk C	.12	†	Dly	.08
"	Nyk T	.12	†	Dly	.08
"	Jg NE	.04	†	Dly	.08

CANADIAN ROUTES—*Continued*

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
North Bay, Ont.	Nyk T	.22	†	Dly	.08
Ottawa, Ont.	Nyk T	.16	†	Dly	.08
"	Nyk C	.16	†	Dly	.08
Regina, Sask.	Nyk T	.80	†	Dly	.08
St. John, N. B.	Nyk T	.31	†	Dly	.08
"	Bw C	.31	†	Dly	.08
St. Johns, N. F.	Nyk T	.58	†	Dly	.08
"	Bw C	.58	†	Dly	.08
Sydney, N. S.	Nyk T	.36	†	Dly	.08
"	Bw C	.36	†	Dly	.08
Toronto, Ont.	Nyk A	.16	†	Dly	.08
"	Nyk T	.12	†	Dly	.08
Vancouver, B. C.	Ste U	.03	†	Dly	.08
"	Nyk T	.96	†	Dly	08

CANADIAN ROUTES—*Continued*

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Windsor, Ont.	Nyk A	.20	†	Dly	.08
"	Cg A	.12	†	Dly	.08
"	Nyk T	.20	†	Dly	.08
Winnipeg, Man.	GfNW	.04	†	Dly	.08
"	Nyk T	.60	†	Dly	.08

PACIFIC ROUTES

Auckland, N. Z.	Lgs	P	2.14	.43	Sa	.50
"	Sf	P	2.14	.43	Sa	.50
Canton Island	Lgs	P	1.28	.43	Sa	...
"	Sf	P	1.28	.43	Sa	...
Honolulu, T. H.	Sf	P	.71	.32	Dly	.08
"	Lgs	P	.71	.32	Thrice Wkly	.08

PACIFIC ROUTES—*Continued*

Suva	Lgs	P	1.61	.43	Sa
"	Sf	P	1.61	.43	Sa
Noumea	Lgs	P	1.83	.43	Sa
"	Sf	P	1.83	.43	Sa

OFF-LINE SERVICE—EUROPE

Destination	Connecting Point and Airline		RATES (See Note) Per Lb.	Min. Charge	Depart	Mail per ½ Oz.
Brussels, Belgium	London	P	.12	.52	.....	30
Geneva, Switzerland	London	P	.31	1.36	.....	30
Goteborg, Sweden	London	P	.45	2.00	.....	30
Paris, France	London	P	.15	.64	.....	30
"	Shannon	TW	.46	...	.....	30
Stockholm, Sweden	London	P	.54	2.40	.....	30
Zurich, Switzerland	London	P	.33	1.44	.....	30

Note: Pan American Airways requires the prepayment of all charges, plus a fixed off-line deposit to cover costs of transshipment and reforwarding to final destination of the shipment. This off-line deposit consists of poundage charges from London to final destination of shipment, plus transshipment bonded entry fee in England, and trucking charge to airport of despatch in England. Transshipment bonded entry fee in England is as follows: one package or first package of a lot shipment—$1.00; each additional package—$.32; excess valuation charge on shipments valued for carriage in the airwaybill in excess of U.S. $400, for each additional $400 (over the first $400)—$.32. Trucking charge to airport of despatch in England is $.02 per pound, with no minimum charge.

Scale of Rates Covering War Risks Generally in Use in American Marine Insurance Markets for Mail and Air Shipments

Schedule Dated August 15, 1946

A—Registered Mail, excluding Registered Air Mail and Air Express:

All securities, including non-negotiables, documents and similar interests—25% of Cargo Rates, with 1½c minimum. Currency including jewelry, precious stones and metals, etc.—100% of Cargo Rates.

B—Registered Air Mail and/or Air Express and/or other shipments by air: Western Hemisphere excluding shipments between points in Continental United States and/or Canada:

	All classes of property
Sendings between points in Western Hemisphere	
All other classes of property	2½
U. S. or Canada to or from:	
1. British Isles, Eire, Sweden, Holland, Belgium, France, Portugal, Spain, Italy, Switzerland, Iceland, Greenland	%
2. Africa, except Egypt	2½c%
3. Arabia, Egypt, Palestine, Syria, Cyprus, Turkey, Greece, Iran, Iraq	5c%
4. Afghanistan, India, Ceylon	7½c%
5. Chungking	7½c%
6. Australasia	2½c%
7. Philippines	7½c%

C—Ordinary Parcel Post, Government Insu. Post, Registered Post, Ordinary Mail (Excluding Air Mail)

(A) United States or Canada to awaiian and other Pacific Islands—Transpacific Cargo Rate.

(B) U. S. to from United Kingdom, Eire, Spain, Afric. ear East, Far East, Newfoundland, Iceland, Greenland, Bermuda—Cargo Schedule Rate from New York but with respect to shipments to or from Spain under policies endorse a the airborne clause, the Lisbon rate will be charged plus an additional charge of 2½¢% because of the ssibility that shipments of valuables may go fo. ard to or from interior points by Air.

(C) U. S. West of Rockies to from Costa Rica, Panama, Panama Canal Zone, Colombia, Ecuador, Peru, Bolivia and Chile—Cargo Schedule for Pacific voyages to from San Francisco.

(D) U. S. West of Rockies to enezuela, Guianas, Brazil, Paraguay, Uruguay, Argentina—Cargo Schedule Rate via Panama to from S ncisco.

(E) U. S. East of Rockies to fro. Costa Rica, Panama, Panama Canal Zone, So. America, West Indies (except Bermuda)—Schedule Rate to from U. S. Gulf.

(F) *U. S. West of Roc to from Mexico—25% of Schedule Cargo Rate for Pacific voyages to from San Francisco with a minimum %.

*U. S. East of Rockies Mexico—25% of Schedule Cargo Rate to from United States Gulf with a minimum of 2½¢%.

(G) U. S. to from British Honduras, Guatemala, Republic of Honduras, El Salvador and Nicaragua—Cargo Schedule Rate for voyages between U. S. Gulf and East Coast Central America.

* Note: Reduced percentage provided assured agrees to pay this percentage on all shipments; otherwise individual shipments on Facultative Basis Cargo Schedule Rate for Pacific voyages to from San Francisco. Cargo Schedule Rate to from United States Gulf.
Rates in this Section are not subject to revision, either upward or downward, should be actual route of the shipments become known.

D—Express (Excluding Air Express)—Charge Cargo War Risk Schedule Rates.